

1921

Audubon co. - Sep. 20. 22

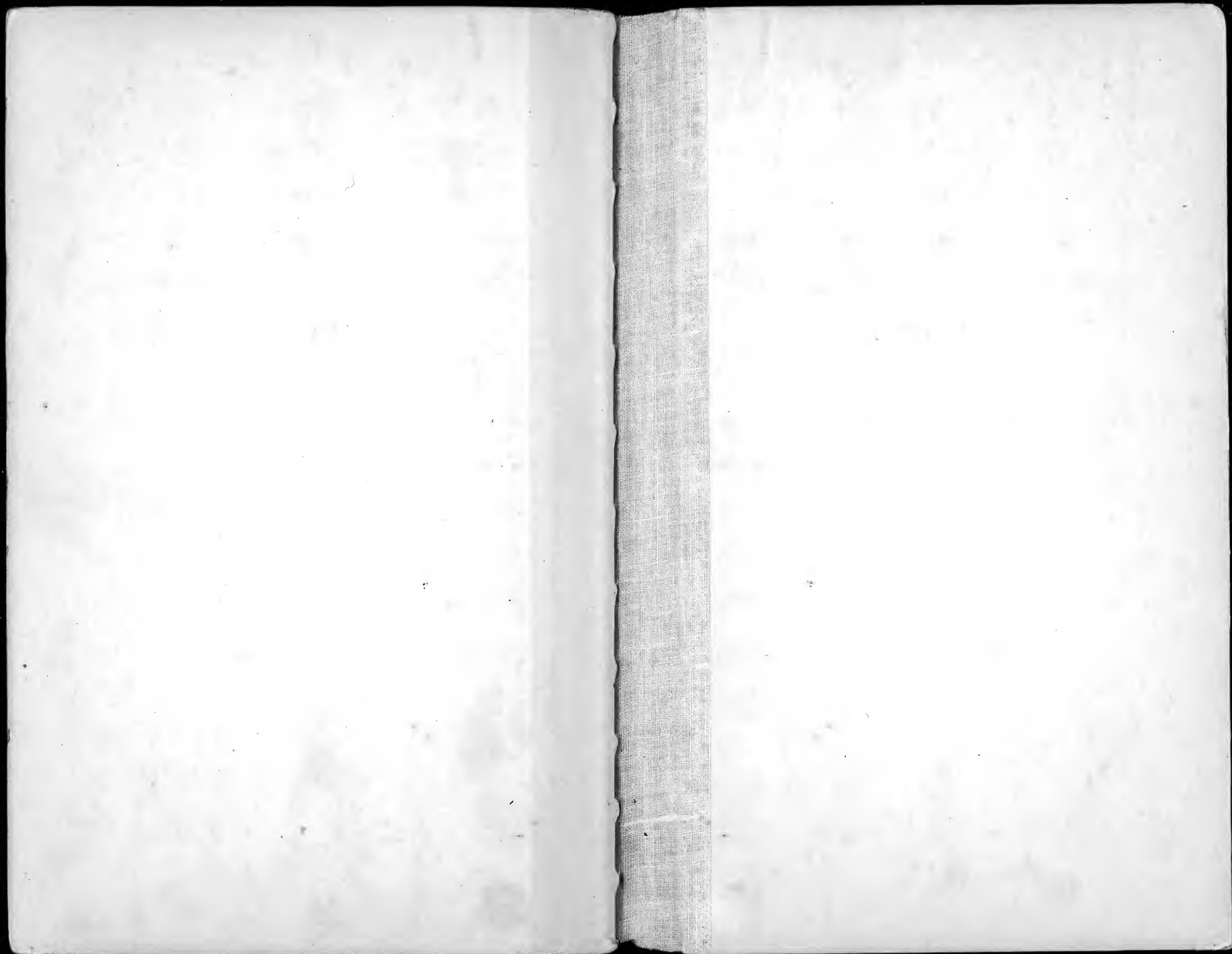


B. Shimek

Iowa City, Ia.

Reward for return  
of this book.





Apr. 20, 1921 - Tues.

Left Shreve at 9<sup>35</sup> AM.

Drive N. in Shelby.

1 1/4 mi. - This is over the rolling, loess-covered Kansan which is much the same over all n. eastern Shelby.

The day is bright, after the storms of yesterday, and a strong wind is blowing. Turn E. 1 mi. to county line. Enter Audubon.

Begin numbering miles on co. line,

We go on E. line.

1, 2, 3, 4, 5, - all in rolling Kansas.

5 3/4 Turn S. 3/4 mi.

6  $\frac{3}{4}$  July 8. 1 mi. to Gray 1 mi.

7 $\frac{1}{2}$  Zwan N. <sup>3</sup> 3 $\frac{1}{4}$  mi. } The region N. E. of Gray  
8 $\frac{1}{2}$  Zwan E. 1 mi. } begins to show flatter  
9 $\frac{1}{2}$  Zwan N. } ridges. It is much less  
 } rugged. To county line

10 1/2 - In Carroll co. - The country in this part  
is quite rolling, a little more so than



right at Gray.

Turn E. From just beyond the town, to

the N., the view from top of ridge shows good rolling Kansan. Drift shows here and there on slopes, & evidently the loess capping is similar to that S.W.

N.E. the surface is still rolling, but in the distance seems to flatten somewhat.

11 $\frac{1}{2}$ . This mile shows drift (boulders) in road, and evidently the veneer is very thin.

Turn S. to Co. line.

12 $\frac{1}{2}$ . This mile is still through rolling Kansan, quite rolling. The ground is still wet & colors are not clear.

On 2<sup>nd</sup> hill S. of town I dug into a little bank on top of hill, about  $\frac{1}{2}$  below surface, & while the stuff

looks loamy, it is rather brownish - which may be due to wetting. The surface hereabouts looks loess-Kansan, but evidently very little loess.

13 $\frac{1}{2}$ . - This mile is in Audubon, & is very like preceding.

Turn E.

14 $\frac{1}{2}$ . - In this mile first (W) part is still gently rolling. Town E. it is less so, & evidently the loess edge is <sup>near</sup> here, but it is not sharp.

15 $\frac{1}{2}$ . In this the loess-ken area is better defined, & the margin is properly located in W. $\frac{1}{2}$ .

16 $\frac{1}{2}$ . - Almost all in Michna bottoms,

17 $\frac{1}{2}$ . - Long gentle slopes. Drift shows on lower slopes. To Top. line.

18 $\frac{1}{2}$ . - Long gentle slopes - drift here & there.



19½ - Long gentle slopes - some drift,

20½ - The hill going up from creek toward E. end shows drift well up to the top. There seems to be only soil, a foot or so, on it at the top.

21½ - The country E. & W. & somewhat N. E., is now much rougher, but it seems to be without loess.

Certainly, if any is present it is very patchy.

In all this loess-less territory the corn looks small.

The hills (rises) between the branches of creek show drift to top. The ridges however, rise somewhat higher E.

There are two ridges between W. side rec. & creek, the W. one higher & on general level of higher uplands.

The other is lower. Both show drift to top, the high one with a little soil.

Between the forks there is a ridge which runs up W. about 25 ft. above road. Plowed ground on very top (which is on level with highest uplands) shows pebbles & small boulders. The road shows drift to surface also. This is quite rough.

E. of creek the 1<sup>st</sup> (lower) ridge shows drift, with a sandy yellow (clayey but much sand) layer, probably 5-6 ft., on the E. slope. Very certainly not loess.

The next ridge is right at cross-roads, & drift shows here to top. In fields there seems to be only a soil veneer, thin, & with occasional pebbles.



22½ - A series of ridges in this mile  
(this is still rough) show drift  
(with soil) to the top of each

23½ - Also shows 3 ridges with drift  
as before.

Went ½ mi. N. & from ridge viewed  
broad valley of Brushy Fork. The  
ridges show a couple of feet of  
slightly brownish loamy stuff.

All this country, except broad valley  
of Brushy Fork, is rough.

This brings us to Co. line.

### Guthrie co

24½ - The first ridge in the woods beyond  
creek shows a yellow (modified?) drift  
with pebbles, clear to top.

In the wood I noticed:

*Quercus macrocarpa*

" *rubra*

*Ulmus am.*

" *fulva*

<i>Carya (pignus)</i>	<i>Juglans nigra</i>
<i>Platanus glabra</i>	<i>Tilia am.</i>
<i>Corylus am.</i>	<i>Populus deltoides</i>
<i>Acer rubrum</i>	<i>Cornus paniculata</i>
<i>Carya (white)</i>	<i>Rubus alleghensis</i>
<i>Crataegus mollis</i>	<i>Prunus serotina</i>
<i>Green Ash</i>	

Along road - *Asclepias tuberosa* aff.  
*Leptochloa cap.*

On bottom:  
*Soft mud*  
*Box Elder*  
*Salix amygd.*

A smaller 2<sup>nd</sup> ridge shows drift

The bottoms are wide & flat.

25½ Beyond the bottom (E) there are  
gentle slopes & they show drift  
well to top. At last one a gentle  
slope up towards E. shows a yellow  
lobular loamy(?) brownish stuff. See  
Guthrie co. no. 1 sample) There seem to  
be 3-4 ft. of this, not clear.



Turn A.

26  $\frac{1}{2}$  From this line, on the rather gentle  
swells, a great view is presented. To the  
S.W. & W. there is the gently rolling loess-less  
plain of Audubon, with the rougher hills  
somewhat to NW. To the NE, E, & SE  
a view of several miles is presented, &  
this seems to be same rather gently  
rolling plain. It seems to extend at least  
to the Middle fork.

At no 2, on a long gentle slope, down  
W., to cross-roads, drift shows almost at top  
(at top in road) & on the slopes there are  
3-4 ft. of yellow sand (with little clay)

27  $\frac{1}{2}$  This is rougher, to valley. Drift shows  
at tops of ridges, & on slopes.

28- Drove  $\frac{1}{2}$  mile on bottomland. To S. & SW.  
the country is much rougher, &  
to SW. a large timbered area appears.

Turn N. 1  $\frac{1}{2}$

29  $\frac{1}{2}$  miles To SE. cor. sec. 8 (returned a  
mile and a half. Bridge out to SW.)

Turn W. 3  $\frac{1}{4}$  mi.

30  $\frac{1}{4}$  - Most of this is on wide bottomland.

Turn S.

31  $\frac{1}{4}$  - Mostly on bottomland. From end of this  
mile (crossroads on top of hill) the country  
NW. looks gently rolling. To S. & SW.  
it is rougher.

32 - Ran about 3  $\frac{1}{4}$  mile of this, over  
rough, timbered country. Drift shows  
on all the ridges quite to top.

33  $\frac{3}{4}$  Turned N. 1  $\frac{3}{4}$  mi.

34 Turned W. to turn.

35 - To co. line. at about middle, (at no. 3)  
on a slope going up to W., drift  
shows for 3 or 4 ft. <sup>(more down)</sup> & over it lies  
about 4-6 ft. of loess (gray below, yellow  
above.)



Colony reddish

in addition  
for a couple of feet,

John and Mary

yellow leaves

bragging  
chocolate

27

(3)

21/11/19

The gray lichen has irregular &  
no <sup>(2)</sup> nodules, shades of into  
yellow, which is gray streaked.  
Irregular nodules - in yellow

A few  
 blue, above - seemingly all from yellow.  
 Hal. scutellata & Pygmaea!

(a big storm is coming!)

The end on D. side shows better but chocolate & drizz  
Tooth samples (a) (b) (c)

*Eastman - Mrs. Jones*

The slope runs up higher, - that  
on which No 3 is located being  
a lower ridge, with another rising  
higher to west (20 ft<sup>2</sup> higher)

only road:

*Andropogon scoparius*

*Aster multiflorus*

$\alpha$  Harris

Copy on

Ch. v. de prun.

Ornstein frame

Kuhnia

*Cirsium vicia*

The top of this limestone ridge W. seems  
to show only a brownish (reddish)  
laminar stuff. Not green?!

A little drift shows not more than  
4 or 5 ft. below it.

Near top a few pebbles show about  
1 1/2 ft. below surface.

The next ridge near co. line is similar.



Andalusia co - going W., begin at co. line.

36 - N. line sec. 13. A short distance

W. of corner the road runs down a hill. Upper part shows a little gray loam, with a little yellow above (?)

Drift comes nearly to top of ridge.

The ridges W. show a reddish or brownish stuff at top & drift on slopes. It is still wet & colors are not clear.

To the north the surface is rough.

In this section also N. E.

37 - The country is still somewhat rough, but the slopes are longer & gentler. Seems to be no loam, but drift shows a little here & there on slopes.

Turn S.

38 - This is also somewhat rough, but slopes are rather gradual. Drift comes up almost to surface ~~on~~ the first two ridges. Only a little soil over it. Slopes gradual.

39 - Looking S. E. from near N. end the country is quite gently rolling. Also W. & S.W. S. it looks a little rough, but not extremely so. Just a little greater swell. The slopes on this line are also quite gradual.

Near S. end. Two ridges show drift quite to top.

Turn E.

41 - Near E. end the slope down shows drift quite to top. Rest of section shows long gentle slopes & occasional drift



41 $\frac{1}{4}$  - Some drift.

Returned 1 $\frac{1}{4}$  mi.

42 $\frac{1}{2}$  - The line on S. side sec. 22

The slopes are rather gentle &  
all the territory is of the gently  
rolling type. A little drift shows  
here and there.

43 $\frac{1}{2}$  - The slopes are very gentle, - almost  
flat. Country far to S & S.W. shows  
gently rolling topography.

From end of this mile N. & N.E.  
and N.W. The same gentle slopes.  
Almost no cuts, hence little drift shows.

44 $\frac{1}{2}$  - Very gentle slopes on road &  
no exposures. All country,  
especially N. & N.W. is very  
gently rolling. Evidently no loess.

Turn S.

45 $\frac{1}{2}$  - Very gentle slopes. No sign of  
loess, & as there are no exposures,  
drift does not show.

46 $\frac{1}{2}$  - Just beyond cross road - between  
31 & 32 (where school once was)

there is a shallow cut running  
up hill to S. At top (S.) is  
shallow run on top. On lower  
slope there are about 2 ft. of  
gray loess with iron tubes &  
above it the same heavy  
gray streaked yellow loess - about  
4 ft. This seems to be at  
edge of loess-covered area.

The rest of way slopes are gentle  
& no exposures, but hills to  
S.W. are more prominent, &  
S. the surface is rougher (in  
next mile)



47 1/2 (middle Twp) The rougher Territory  
seems to run about a mile E. of  
this line.

48 1/2 - The same is true here.

These two miles are not rough, but  
rougher land is just to the little  
is exposed. Country S. is rough rolling.

Turn W.

49 1/2 - to co. line.

50 1/4 -

Turn S. 1 mi.

51 1/4 -

Turn E. - 1 1/2

52 1/2 -

53 1/2 -

54 1/2 - Audubon.

2 1/4  
16 3/4 to Shaver  
73

Reached Audubon  
at 700 p.m.  
just up at  
Hotel.

73  
15  
365  
73  
10.95

Sept. 21, 1921. Wed.

Started out at 9 am.

Elevation at curb E. of Presbyterian  
Church (block N. of Courtland) = 1000.  
1 blk. E., <sup>SW</sup> cor. E. Division + Broadway  
= 1020.

Trees culd. in Audubon:

Wh. Birch	Apple
Cupress " "	Scotch Pine
Walnut	Cottonwood
Ash Vitae	Wh. Mulberry
Red Cedar	Green Ash
Eu. Larch	Norway Spruce
Soft Maple	
Bass Alder	
Am. Elm	

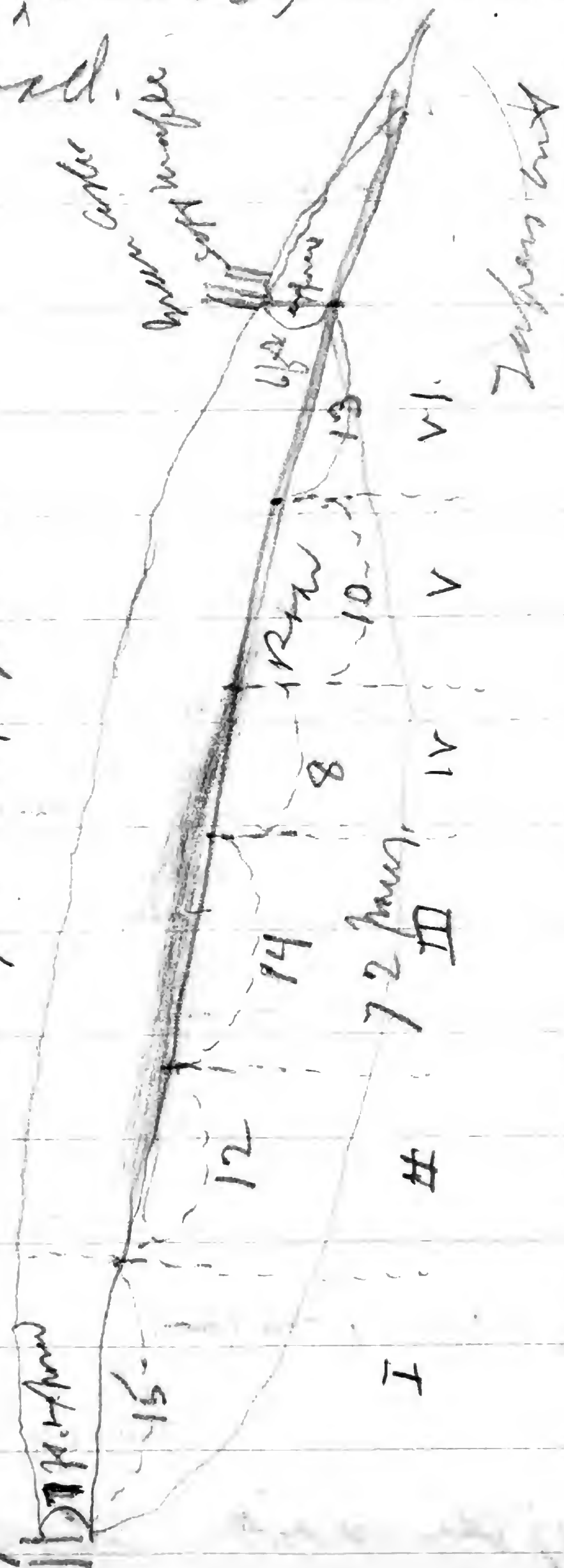
At top of <sup>top of plateau</sup> hill N. 1/2 sec. 21-80-35.  
= 1045 (~~1045~~)

Near NE. cor. NW 1/4 sec. 22-80-35 - highest  
part of ridge = 1055.



Near NW cor. NW 1/4 NW 1/4, 22-80-35,  
on slope down to E. is a long  
cut, made, <sup>rather</sup> recently to cut down  
grade of road.

This is on W. side. The  
A. side is less clear, not  
having the deep gutter.



I divided this into sections, as indicated,  
and these are treated separately  
in following notes.

The shells in the ~~upper~~ (older)  
yellow loess are mostly in lower 2 or 3  
ft., & Puc. arana is the most  
abundant, - only a few other individuals  
found. No shells in uphill end.

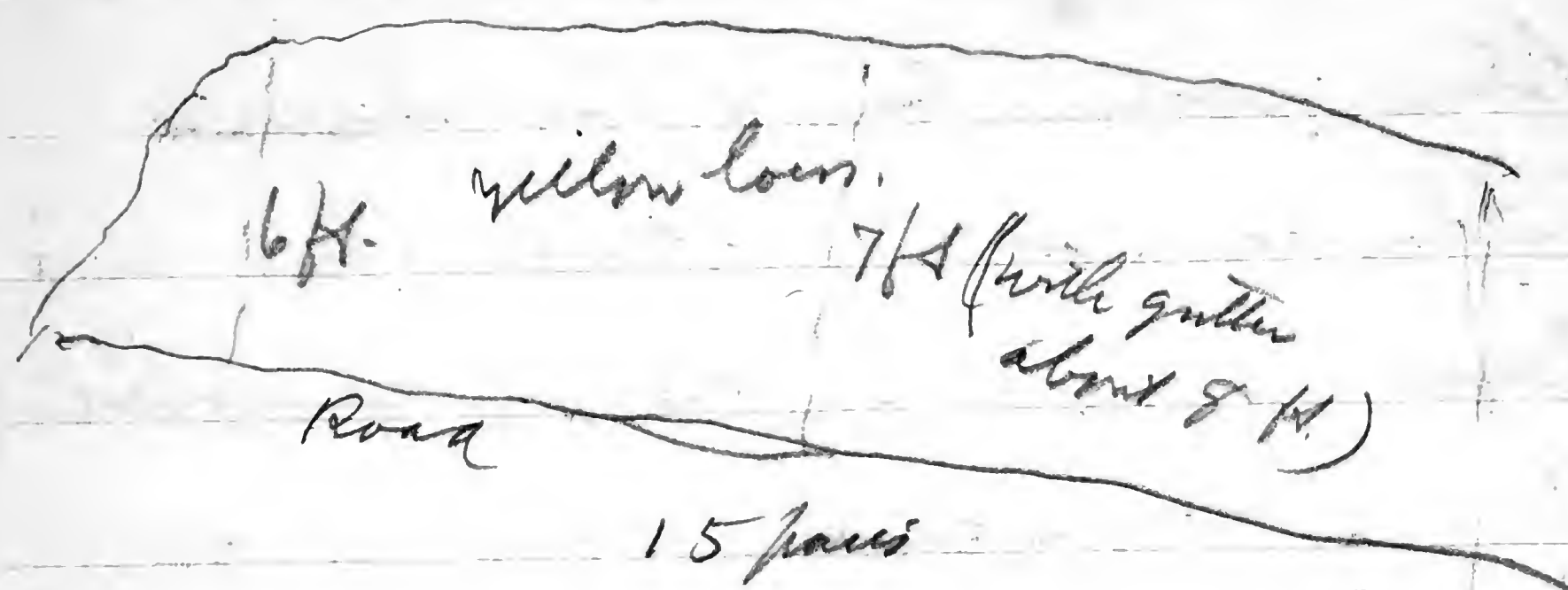
In the gray loess shells are found  
all along except near top end.  
In the upper part Puc. arana  
is quite frequent. In lower  
the Pupae are more abundant.  
Notably are few & round in gray  
loess, and small & scattered (few)  
in yellow loess.

Sec. I. This is 6 to 7 ft deep, & shows  
only yellow loess without shells  
& with very few nodules.

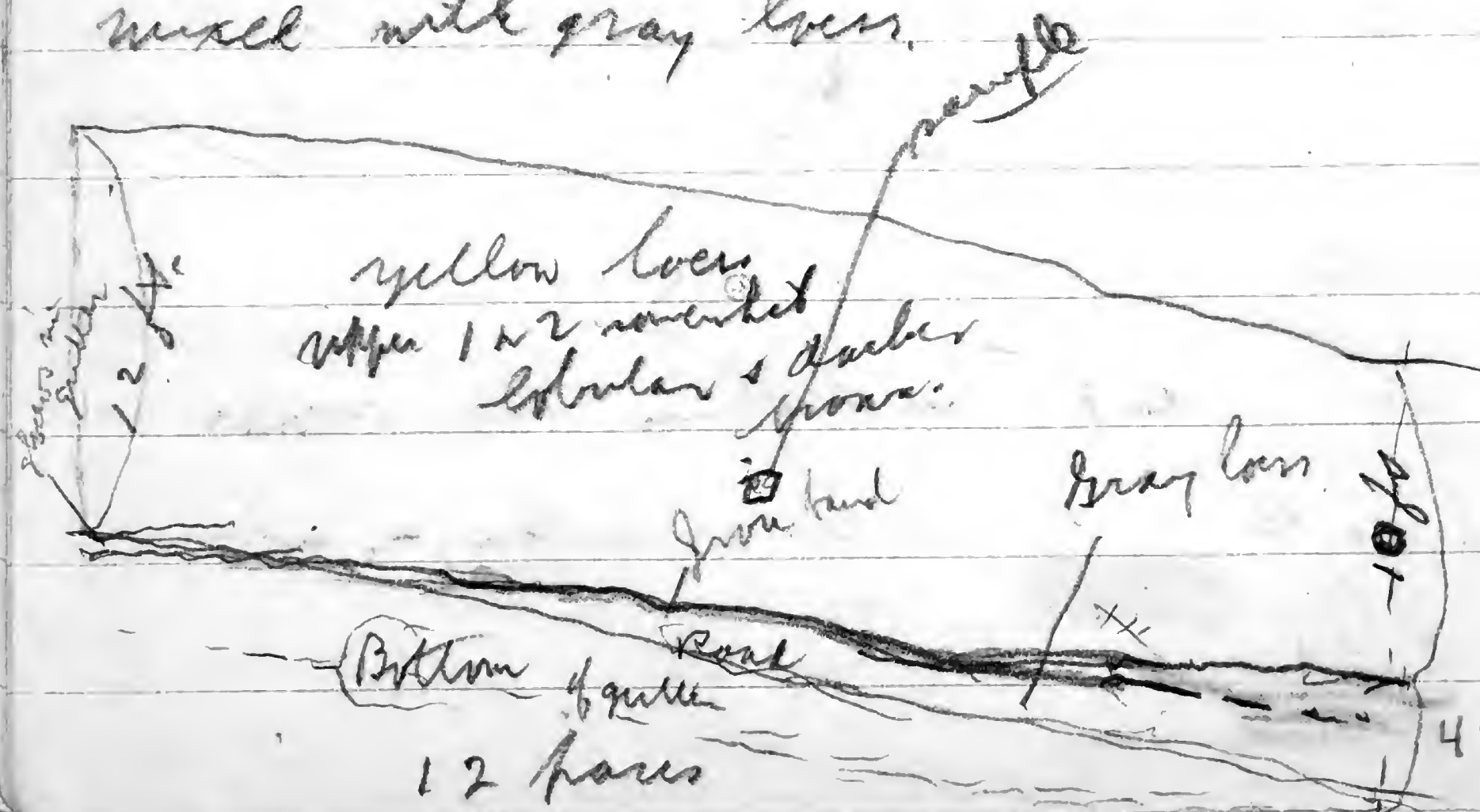
This extends back up nearly to  
top of this steeper slope, but  
tapers out.



I



II. In this section gray loess appears at base. It is quite sharply separated from the yellow by an iron band, which is somewhat irregular, but runs about 2-3 inches, in places nearly mixed with gray loess.



At the E. end there are  $2\frac{1}{2}$  ft. of distinct blue fossilif. loess & this changes <sup>markedly</sup> rather abruptly into a hard blue mucky layer resembling the toughest chocolate. Is this the original source of gray loess? There are a few iron tubes in this also, but in gray they are abundant.

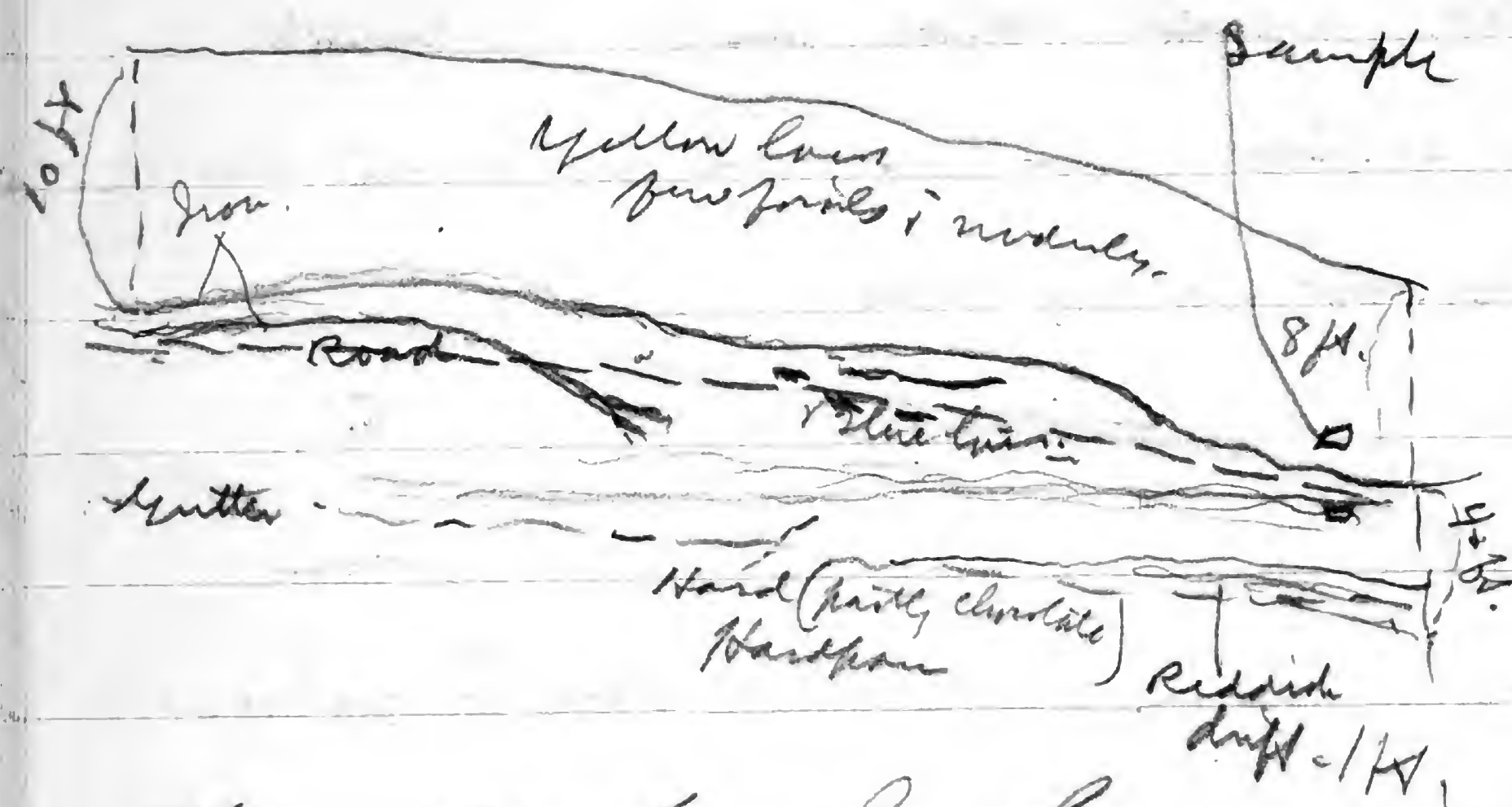
About a ft. of this hard stuff is exposed in gutter. The iron bands in gray loess (at top) divide as indicated. The space between those to W. reaches about 8 in.

(more in next section.)

At E. end the distance from ~~the~~ iron band to bottom of gutter is about 4 ft.



### III. -



The yellow loess here has few fossils, & these only in lower part.

The iron band is irregular, but reaches 5-6 in. in places.

It follows the road out at hard pan below. Irregular division

shows for some distance to E. of that.

The hard pan layer is blue-gray or chocolate, with iron tubes (few) & streaks. It shows more or less irregular

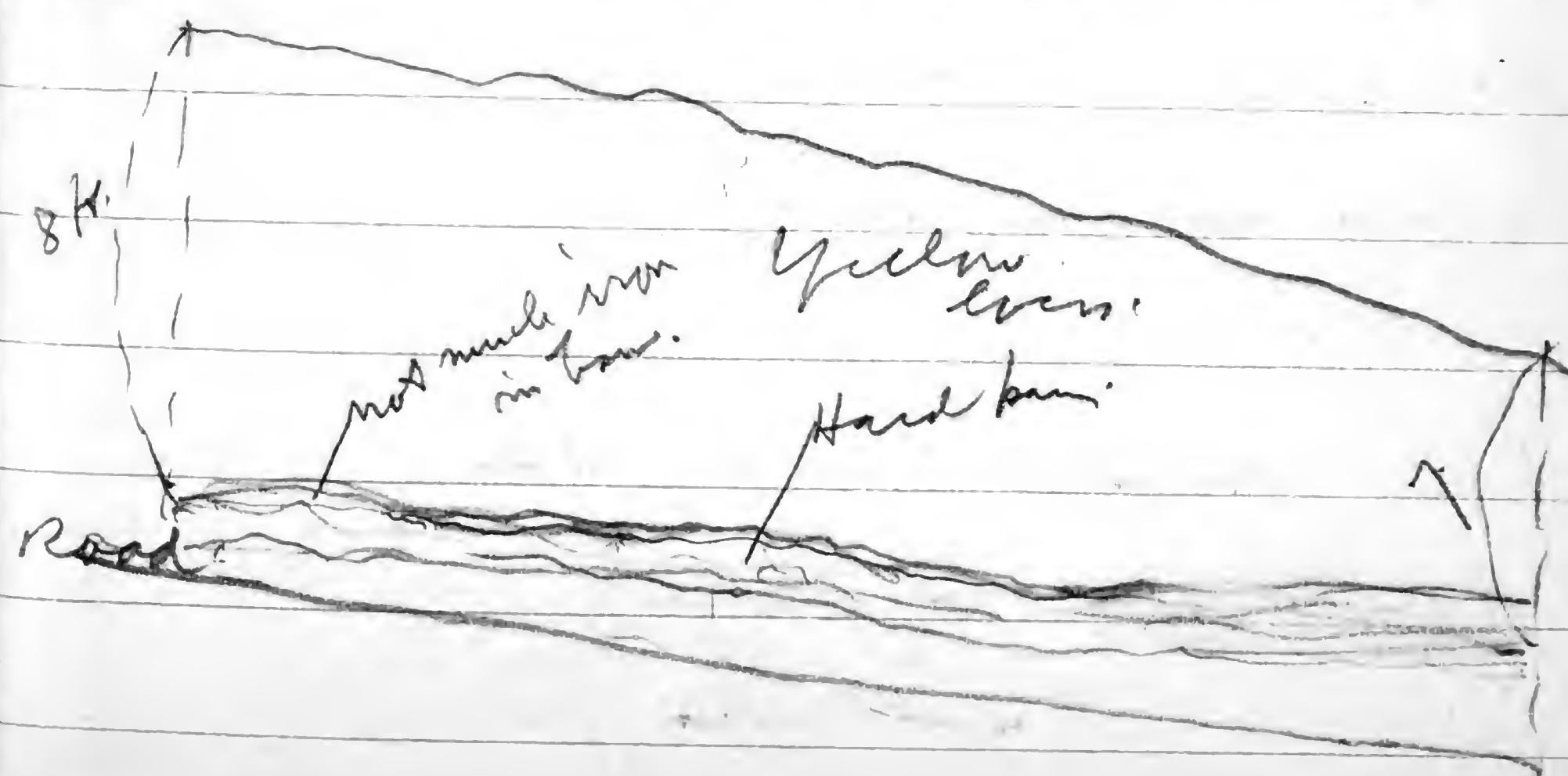
stratification.

The drift shows only a little in gullies, & is in this part nodular, loess, with some iron.

At the E. end of section the gray loess runs out, & iron band comes right down to chocolate layer. A little irregular gray streak may represent remnant of gray loess. The gray loess has numerous iron tubes.

### IV. -

No blue loess in this



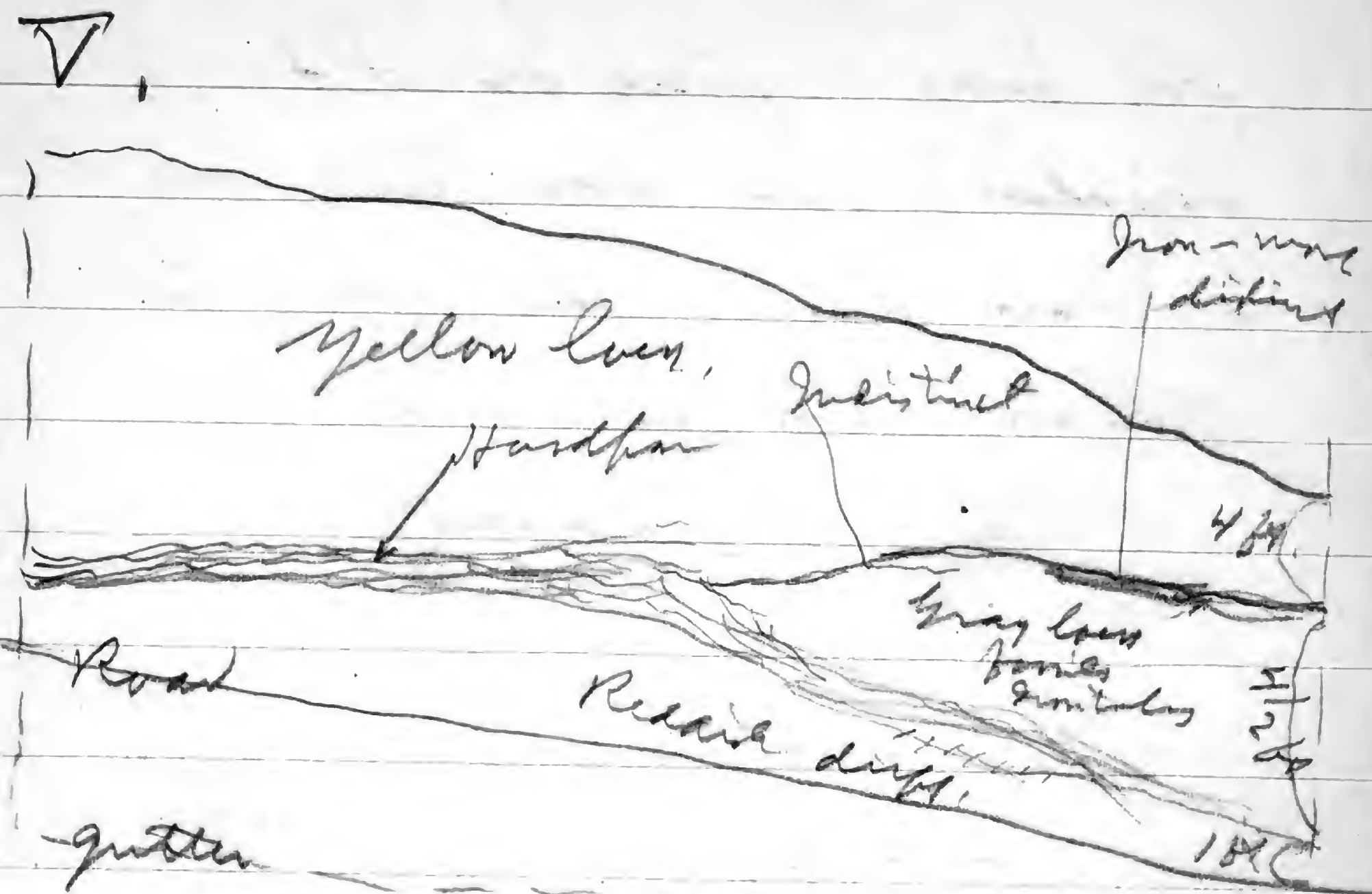


The iron is quite scant & streaked in the iron band here. The hard pan is blue or chocolate, & shows stratification in wavy contours. It is about 1 ft. deep.

Nearly 4 ft. of reddish drift is exposed in gutter. At E. end of this section there is an 8 in. granite (mostly orthoclase) boulder in gutter.

The drift looks reddish & "granular" to very bottom of the gutter.

The hard pan is nearly horizontal. Only slight fall, as if at edge of shallow pond or stream.



The hard pan is as in preceding but runs out to right.

Sec. VI is not distinct & seems to show gray loess mostly.

Took sample of yellow loess (no bones) in sec. VI, 2 ft. above iron band, at middle.

Took gray sample just below, 4 6 in. under iron band.



Took sample of yellow loess  
(fossiliferous) from Sec. III  
(2 paces from E. end), &  
6 in. above iron band.

Took sample of hardpan  
just below this.

This cut runs out (down hill)  
at about 58 paces from  
Green Ash (see cut), at a  
fence running N.

The ground then still slopes  
down. Readings (barometer)

N. end of cut ( <sup>about</sup> 45 paces W. of  
private road & near sec. I ) = 1084

Base of Sec. I <sup>road.</sup> W. end = 1076

" " cut at Green Ash = 1060

E. End of cut at cross-fence = 1044.

Flat at base of hill = 1004 ft  
<sub>main top</sub>

1069 = Road at E. end of sec. III, where  
iron band is just above level of road.

The road runs from base of hill  
E. on nearly a level (rise to E.) at  
base of a hill to S.

It is 205 paces from cross-fence  
to base of hill, at A.P. Gorgens  
mail box.

The mail box is 160 paces W.  
of the Sec. cor. ( ~~Sec. cor.~~ of sec. 22  
Elev. from ~~at~~ <sup>at</sup> sec. cor. = 984

Both of the cuts in sec. east  
show only drift, but both are  
toward base of higher hills  
rising to upland S.

The drift shows a red brown  
band above & gray & bluish  
below. Many pebbles & small  
boulders.

Reading in road at base of 2<sup>nd</sup> cut east  
= 990.



A layer of brown stuff above  
drift in these cuts seems to  
be 3-5<sup>ft</sup> deep.

The elevation of road at  
N. edge of bottomland on  
N. side of N.  $\frac{1}{4}$  sec. 23 = 950

Changed to 965 while I lunched.

On flat just N. of bridge = 950  
 $\frac{1}{4}$  mi. E.

At N.E. cor. sec. 23 = 965

At 400 paces E. of N.E. cor.  
 $\frac{1}{4}$  mi. E. of sec. 23 is top of rise, still  
below uplands E. & N.E. & S.E.

Reading = 1004

Seems to be all brown stuff here.

It is rather tough, <sup>rather</sup> dark brown, &  
breaks like fine jointed clay.

Not loess.

The yellow loess in big cut  
on N. side sec. 22 is of the  
older type, with streaks of blue,  
black spots, & few small nodules.

Went N. on road along N.  $\frac{1}{4}$  line  
in sec. 13. Along the line

first mi. N. (in 13) there are  
three low ridges, - much lower than  
uplands rising to E.

The first, at S., shows only brown  
stuff. The second is broader, & on  
N. side a gutter (on E. side) exposes  
about 5 ft. of the brown stuff.

A little drift here & there.

The third is highest, rising N.  
to a broad ridge. On its S.  
slope about  $\frac{1}{3}$  way up, brown  
layer shows very distinctly right  
on drift. No iron or other sharp



line, - it simply blends with it abruptly. It is about 4 ft. deep here, & seems to run about as up hill, for bits of drift show in ditch lower ~~than~~. There is no loess here!

The highest part of this flat ridge is just N. of the N. line of sec. (at cross-roads) & elevation = 1009.

E. of this cross-roads (about 75 yds)

The top of ridge = 1030. (but locally <sup>only</sup>)  
E. of that it is gentle <sup>rough</sup> slope.  
Brown stuff shows on this ridge.

965 = elev. of bottom land just E. of bridge, on N. side of sec. 14.

Went west along N. side 14 & 15.

Just W. of NW cor. of sec. 15

The top of ridge = 1060.

This is just a little below general level.

The slopes up toward W. are gradual, & no loess is visible, but a much similar to that in cut in sec. 22, & over is brown stuff [thin!]

All the country NW, N., and NE. show the gently sloping contours. E. across river (& N.E.) there is a somewhat higher mass. (May be included in loess area?)

At  $\frac{1}{4}$  mi. E. of N.E. cor. sec. 15 <sup>2nd</sup> is highest hill on this road. It is on general level of upland & reads 1100. The higher mass E. of river runs a little higher, & also hills S. & SW & W., but NW, N. & NE. it is this general level, & all with gentle contours.



The handspan comes <sup>near</sup> to surface  
even on top of this hill.

Drift shows on both sides  
just a little below top. No  
deep cuts.

A lower ridge W. shows  
drift quite to top.

The next ridge, also lower  
than 1<sup>st</sup>, is just at  $\frac{1}{2}$  mile  
(Quarter) post. It shows drift on  
slope, & on top show a  $\frac{1}{2}$  in  
foot or so of gray loam with  
fragments & a few fossils.

It has an iron band above,  
& is capped with about 3 or 4  
ft of yellow loam & soil.

I saw no nodules, but tubules  
are abundant in gray loam.

Saves shells from gray loam.  
A fragment (of *Am. arena?*) was also  
seen in yellow loam.

The gray loam must be very thin,  
as drift comes well up.

1128 is reading on highest hill  
on this row. This is on a level  
even with railroad near E. of  
river. This is about a  $\frac{1}{4}$  mi  
E. of NW. cor. of sec 15.

The two lower intermediate  
(preceding) ridges are probably  
40 ft. lower.

N. side NW. of NW. of 15-80-55,  
sloping up to show drift  
& 2 or 3 ft. of brown stuff  
resting right on it. No iron  
or other band. All along  
N. S. & W. side of 15 what has



is present must be very  
patchy as drift is everywhere  
in evidence.

The cut just S. of  $\frac{1}{2}$  mi. cor.  
on W. side of 15, shows 2-4  
ft of brown stuff, quite sandy.

The cut N. of creek, in S.  $\frac{1}{2}$  of  
sec. shows brown stuff & drift,  
but no loess. Slope down S.

The same is true of next one  
S., sloping up S., which  
shows drift & brown stuff.

This whole mile on W. side  
of sec 15 shows no loess.

The road on hill,  $\frac{1}{2}$  mi. cor.  
corner N. of Columbus, at 6

P. M. = 1105 - -

At cor. Broadway & E. Division

(W. of St. Patrick's Church) = 1071.

This is nearly correct for Columbus.  
Perhaps 8 or 10 ft, added is  
all that is necessary.

Presbyterian Church curb =	104.5
	<u>10.00</u>
	45.5
CR. I & P, Ry - depot -	990

Dr. H. C. Rogers wants me to  
stay at his home, & let him  
know when I can come back.  
Want a talk, - prefer Friday  
night if possible.

The day has been bright  
and windy.

Spent evening writing notes  
and packing.



Sept. 22, 1921 Thurs.

Awoke at 5:30 AM. Packed  
basket of material & sent it to  
Ella.

Left at 8:45 A.M. for Brayton.  
Train is 35 min. late.

The day is bright, and with  
only a nice breeze.

The widening and grading of  
roads, and the cutting of "weeds",  
are rapidly removing even the  
remnants of our prairie flora  
along the roads. The cutting  
of "weeds" is resulting in the  
destruction of our harmless flora  
of the prairies, but Rag-wort,  
Prickly Lettuce, etc. are everywhere  
abundant.

Very few parasitic fungi have

been in evidence so far. This  
is an off year for them. The  
usual host plants seem to be  
maturing and drying without  
the assistance of their parasites.

Walked out from Brayton S. to  
first crossing (about 1 mi.)  
On the woods - <sup>substantially to the</sup> bottomland, I saw:

Crataegus mollis	Ulmus americana
Salix nigra	Acer negundo
Green Ash Fraxinus	Juglans nigra
Symphoricarpos (red)	Acer spicatum
Populus deltoides	Vitis vulpina

On higher ground:

Filix fem.	Crataegus mollis
Shrubby Liriod.	Juglans nigra
Quercus macrocarpa	Quercus rubra
Ulmus americana	Bittersweet celastrum scandens
Green Ash	Ribes gracile
Symphoricarpos (red)	Menispermum canadense
Ulmus fulva	Atropa occidentalis
Sambucus canadensis	Eryngium yuccifolium
Carya (white)	



Also collected a few mosses &  
flowering plants, & *Oenothera lutea*!

Also collected several ferns, mostly  
chiefly under *Filix* and logs.

*Polypodium monodon*

*Zonitoides arborescens*

*Vallonia costata*?

*Prifidiana acuminata*  
" *contracta*.

*Zonitoides viridis*?

*Succinea arvensis*.

A *Lymnaea*? in drift?

*Vitrea hammonis*.

→ The last was most  
common under logs, etc., in  
wet places.

*Enconulus fulvus*.

I returned at 3<sup>00</sup> PM, &  
left Brighton at 4<sup>20</sup> PM  
(train 38 min. late.)

Went on home, changing  
at Atlantic.



Oct. 27, 1921 - Thurs.

Left Iowa City, for Audubon  
at 12:15 AM.

Oct. 28, 1921 Fri.

Reached Atlanta at 7:45 AM  
1 1/2 hrs. late, & missed first  
train for Audubon.

A clear, pleasant morning,  
but it rained in the night.

It clouded up, & just  
about noon it rained  
more or less. The roads  
are quite slippery.

Reached Audubon at 2:00 PM.

It has been drizzling a  
little, but is letting up.

Wrote my list of McEugor  
ferns, <sup>for Bennett</sup> at Atlanta, &  
mailed it before leaving  
for Audubon.

Rained in afternoon,  
Reached Audubon and put  
up at Dr. Rogers' home.

In evening talked to Veritas  
Lodge on the 2<sup>nd</sup> Degree.

Oct. 29, 1921 - Sat.

Awakened late. It was raining,  
and rained all day.

Wrote notes.

Oct. 30, 1921 Sun.

Rained, <sup>nearly</sup> all day.

Attended Methodist Church in  
morning.

Wrote notes in afternoon  
and evening.



Oct. 31, 1921, Mon.

It was still wet in the morning.  
Spent forenoon on my notes.  
Clear and windy.

In afternoon went East.

Elevation at Pub. Clinic ... 1000

Cor. E. Division & Broadway ... 1027

N. line sec. 21 (on hill) - 1066

This is at point N. of Audubon  
where I turn E.

From here the country SW., W., N.E.

& N. is distinctly rolling Kansan-  
loess topography.

Also N.E. for a short distance.

Stopped at my big cut.

Took photos 15a & 16a of that

part on N. side where band comes down

On opp. side gray loess is  
a little higher & shows a lot

of fossils. Also rusty band above  
yellow, here thicker, has fossils  
in lower part, but fewer.

Elevation S. side - opp. place  
where red band drops down on  
N. side:

Road - 1065 -

Top of gray - 1068

Top of yellow - 1074

gray - 3 ft. exposure (more in places)  
& more with further

yellow - (must be 10 ft or more)

Tried HCl. - gray loess effervesced  
rather freely. Yellow loess much  
less so, - even 1 or 2 ft apart!

Went E. to 1<sup>st</sup> cut on S. line  
of sec. 13. - Tested brown stuff  
with HCl. No reaction.

Went S. one mile, to pt  
1/4 mi. E. of W. line of sec. 24



all this Territory E. of the river  
is gently rolling, with long  
slopes.

Turned W. Towards Audubon.

Between the river and Audubon the  
topography is decidedly rolling  
loess-Kansan, & the cuts 59-63 are  
across the ridges. Cut 63

seems to show nothing but  
drift, but it is on the lower  
slope of a ridge, not at top.

At 5:30 pm. it was too dark  
to see anything.

Rode in 2 miles, had supper,  
and wrote notes in evening.

Nov. 1, 1921. Tues.

A fine, clear, rather cold  
morning. Wrote notes.

Left at 8:40 am for Ross.

Elevation of R.R. = 1000

" " top of 1<sup>st</sup> hill E. of H. & S. road  
= 1000

crack bottom 1004 (1030)  
Just E. of creek a long cut  
along road runs to E. At base  
✓ for some distance up, bluish Kansan  
drift shows. Above it (at foot of  
hill is a joint clay, <sup>(perhaps 2 ft)</sup> more or less  
laminar, & with few pebbles & small  
boulders. It is yellow.

This upper part shows little  
resemblance with H.C. Lower part, <sup>(drift)</sup> more  
this layer shades down into  
drift & is only a modified  
part of it.



Sylvester Moore - brother-in-law of  
L. P. Kessler  
Okenia mac nigra

The Kanran contains quite a number of small Sec Q, boulders & a few pieces of limestone.

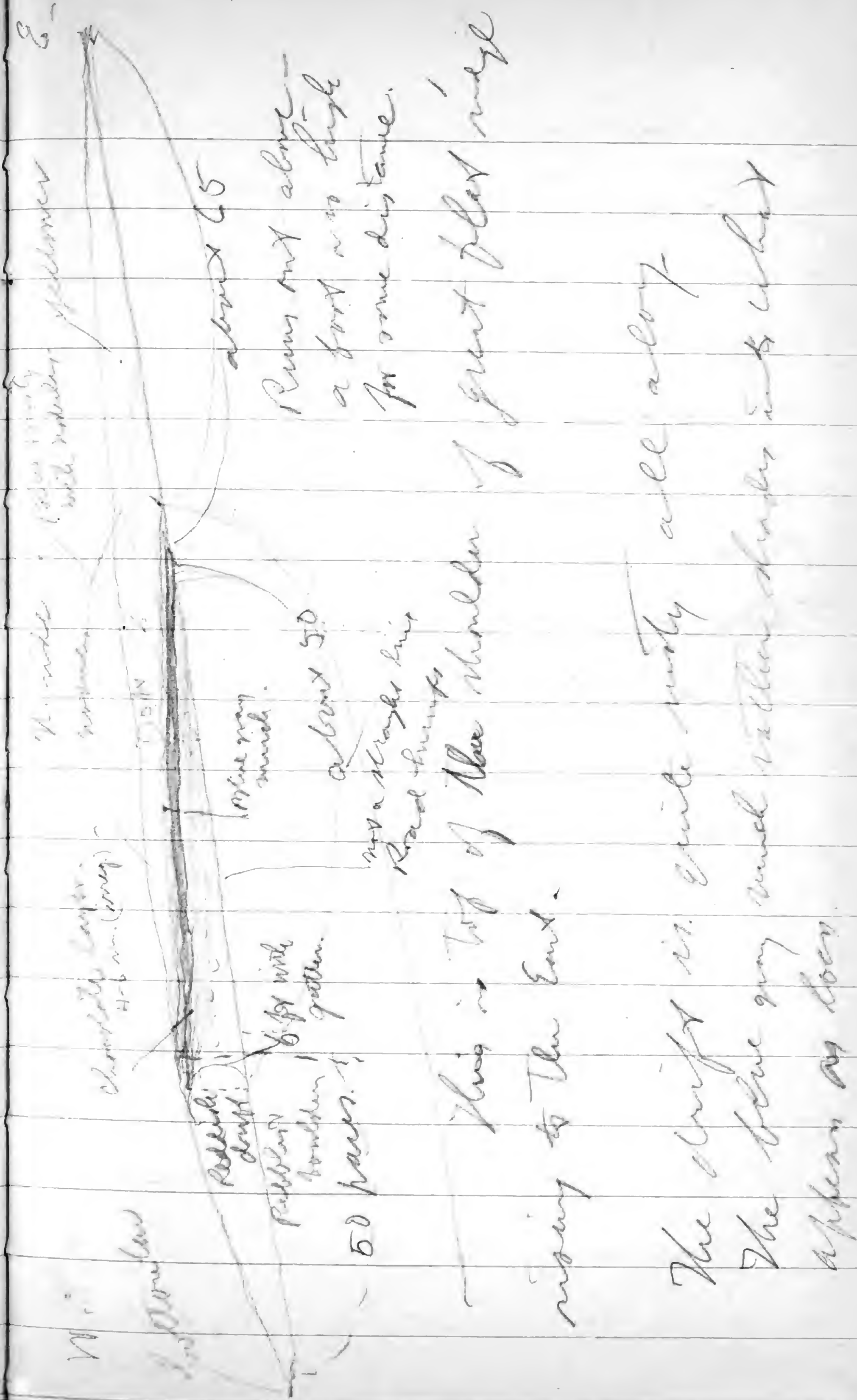
The chocolate band (in places like gray loess, but heavy, runs out at 50 paces from base.

It then runs more nearly horizontally  
than surface, & dips <sup>under</sup> about  
50 fathoms farther up.

Above it is a layer of rather heavy stuff, somewhat like gray loam, but with a lot of iron in streaks & clonings.

Within the low masses "nodules"  
are many nodules, some irregular,  
a few lower down rounded (see sample)  
No fossils.

In places there is blue gray (6 in. or more)  
much ~~more~~ chocolate layer, or a part of it.





The nodular gray loess<sup>2</sup> is  
very calcareous; blue much very  
little; rusty drift none,  
yellow apparent.

In places a foot or more of the  
blue much appear like blue  
loess, with large iron tubes.  
Then a strongly oxidized  
irregular sand, 3-6 in.  
Then the blue loess-like rusty  
half grading up into  
yellow.

Whole samples - chocolate

blue much? (locality)

Mixed " " " "

yellow

Rounded nodules from lower part blue

smaller irregular, from nearer top

Towards top of hill the upper  
part is more distinctly yellow,

+ lower. There is a foot or  
less of modified soil.

Readings at 11.30

Creek bottom 1045

Top of cut 1 - 1071

Top of hill E. 1098

Highest pt. near river 1114

At W. end of cut 1, where chocolate  
layer runs out, the brown modified  
top of drift (at same down the  
slope) comes under chocolate layer  
& thins out 8 or 10 feet to E.  
(Not sharp)

Bank is still very wet after  
recent rains.

Cut 1 runs out on a shoulder of  
a great flat ridge or elevation,  
which, after rising to 1098, runs  
on the general level of the  
territory to near the section line.



This cut 1 is in 2<sup>nd</sup> 40A W. from  
NW. cor. sec. 3 LeRoy Twp.

The highest point on N side sec 2.  
(about 40A E. of NW. cor.) reads  
1121, but is a few ft  
lower than last (1104!).

Evidently the barrow is covering  
Creek bottom E. 1022

Cut 2 is on E side of long hill down  
to creek bottom. It is badly overgrown,  
but 1/2 way down a bed of gray loess  
about 1 ft, rests on a rusty sand. Above  
the gray loess about a foot (+) of the  
mixed gray & rusty & above that 2 or  
3 (or more?) ft. of yellow.

Drift shows broad foot of hill.  
Cut 3 - is only 2-4 ft high &  
overgrown - It slopes down E.

On its lower slope a very rusty  
layer & this grades into  
drift, apparently.

The material in the roads all  
along looks much heavier,  
It does not look like loess. Evidently  
there is not much loess, & this  
only in caps.

The cut just east of creek, E. of  
NW. cor. sec. 1, LeRoy Twp.,  
runs uphill E., & nearly all  
of it is very calcareous drift (thin  
& rusty) with many white pebbles, etc.  
It is very calcareous 1 1/2 ft. below  
top. Only uppermost ft. of soil  
gave no reaction with HCl.  
This runs up, <sup>rather</sup> gradually, to a little  
plateau, or flat top of lower ridge, which  
in its highest place in row = 1102 (is



is distinctly lower than the  
hills on N. side (see 2.)

This is nearly highest point on  
this flat ridge.  
this is cut 4.

At upper (E) end of this cut  
there seems to be a little brown  
stuff (only a foot or two as far as  
I could see.)

The slope of cut is not very  
abrupt.

Cut 5 is on E. slope of same  
flat ridge. It shows drift  
well up & probably brown.

Cut 6, shows drift nearly to top,  
with 2 or 3 ft. of brown on very top.

Cut 7. - 1-2 1/2 ft deep. Shows brown  
on top & drift on both E & W.  
slopes. Little on E. slope.

No loess in these last cuts.  
The topography is also somewhat  
more gently rolling. Perhaps this  
should be cut from this area.

Yes! - at corner of top much better drift -  
a lot of gravel & pebbles.  
went N. 1/2 mi from top corner.

Elevation at high pt 4000 + N. of  
corner = 1135 This is height  
of general plateau.

A splendid view in all directions  
excepting W.

Took photos 33 & 34. N. of N.

11-12 S. of E. across Kishwaukee

Both show the less rolling topography  
of the loess-less area.

Looking N. & NW. (to NE. & E.)  
The country is gently rolling -  
none of the abrupt loess-Kansas  
slopes. All this part should



be cut out of lens area & the  
few "islands" of lens can be  
represented separately.

2<sup>nd</sup> reading (on return) of high point  
is 1145.

On the way up (W) to high point,  
perhaps 18 to 20 ft. below top,

a lot of small nodules in  
road indicate a little lens.

There is no cut to show this  
clearly.

Reading on river bottom S. of NE  
cor. of LeRoy Twp = 1006.

On bottom land saw:

Ulmus americana  
"fulva  
Rosa pratincola  
Cottonwood  
Viburnum

Pignut  
Acer rubrum  
Green ash  
Honey Locust  
Crataegus mollis

near middle of N. line nr. 2 There  
is a high rather steep hill.

about 1/2 mi from base of hill,  
a gray stuff with iron tubes  
(like gray lens) is exposed

about a foot. Farther up  
the hill cut runs 1-2 ft V

shows yellow lobular stuff.  
May be lens? No fossils.

This line to the N.E. was from  
Ross to Audubon, is quite rough.

Drift shows here & there, and  
evidently the top dressing is thin.

Had a ride to Audubon.

C. W. R. R. Audubon 1066

Taken at 5:30 P.M.

Moved to Sweet Home Hotel for the  
night. Arranged material, visited  
Rogers; went to bed.



Nov. 2, 1921 Wed.

Arose at 6:30, packed, wrote letters, and left at 8:10 AM. for Exira.

The morning is clear but rather cold.

At Exira I put up at the Park Hotel, and went S. (and S.W.) along bottomland road on E. side of river. There is a terrace-like area S. of the E. & W. part of the road, and it is also noticeable on the N. side of the creek, including the W. part of Exira.

I worked in the bottomland woods just SW. of Exira, noting trees & collecting a few fungi and a moss.

Bottomland Timber - Exira

Box Elder	acer negundo	Sambucus canadensis
Soft maple	" saccharinum	Smilax hispida
Salix amygdaloides		Eonymus atropurpureus
Rumex crispus		Ribes gracile
Am. Elm	Ulmus americana	Symphoricarpos (red)
Crotonus mollis		Corylus americana
Quercus macrocarpa		Rhus glabra
Juglans nigra		
Lilac americana		
Green Ash		
Cottonwood	Populus deltoides	Rubus cuneatus
		Cryptotaenia canadensis
		Polygonum scandens
		Urtica grandis

Went south.

The terrace just S. of Exira is quite flat, but soon breaks up. The general bottomland invades it.

The recent terrace-like plane is in no. 9. This is really a flatter extension of highlands.

At (X) S. part of no. 9 - a cut in road shows about 2 ft of a joint bluish & yellow heavy clay. No reaction with HCl.

At O in no. 10 is a low hill, from



which there is a fine view, S.E. & S.  
the country is rougher, cut up somewhat  
by valleys, & it was evidently all timber  
W. & SW. The view is across a  
gently undulating area with long  
gentle slopes. No forest except  
down along river.

N.E. it is somewhat rougher  
and here & there in valleys are  
scrubby groves.

E. it is somewhat rough along creek,  
but only for a short distance.

The "bluff" slopes along the river  
are all very gentle, - especially  
on E. side W. of the rougher area.

A low <sup>just</sup> cut, E. of S.E. cor. of sec. 16  
shows about 6'-8' of what looks  
like gray loess, <sup>at base</sup> of bar. It  
has iron tubes, <sup>(rather small)</sup> but no nodules.



# Expenses - (cm) Audubon, Sep. 1921

Sep. 21 - Lunch	<sup>25</sup>	.25
" 22 - Hotel 2 room, 5 meals.		4.50
Barber <sup>15</sup> , Ex press, basket.		.60
RR. to Brayton (Ex. Ins) no tax		.48
Lunch, Brayton <sup>30</sup> , 2 <sup>nd</sup> lunch of <sup>35</sup>		.65
RR. Brayton to Iowa City <sup>note</sup>		7.74
To Audubon - Oct. 27 - (Ex. Ins.)		14.22
Oct. 27-1921 - Taxi - Iowa City		.25
RR. to Audubon (no tax)		8.22
Oct. 28 - Breakfast (Cordis restaurant - Atlantic)		.55
Virginian cafe, Audubon, dinner		.45
Supper (lunch) Curtis Rest.		.15
Oct. 29 - Curtis - Breakfast	<sup>25</sup>	.25
Supper	<sup>25</sup>	.50
Oct. 30 - Breakfast	<sup>15</sup>	.15
Supper	<sup>25</sup>	.25
Oct. 31 - " Breakfast	<sup>45</sup>	.45
" Dinner	<sup>25</sup>	.25
" Supper	<sup>45</sup>	.45
Nov. 1 - " Breakfast	<sup>45</sup>	.45
" Lunch	<sup>30</sup>	.30
RR. to Ross		.16
Nov. 2 - Sweet Home Hotel supper, room, breakfast		2.00
RR. to Exira		.35
Exira, Exira <sup>25</sup> , lunch (bakery)	<sup>25</sup>	.50
Nov. 3 - Park Hotel, Exira supper <sup>50</sup> , Room <sup>1.00</sup> , Breakfast <sup>50</sup>		2.00
RR. to Brayton		.40
RR. to Atlantic (no tax)		.45
Plates <sup>90</sup> , Barber <sup>40</sup> , glue <sup>20</sup> , Magazine		1.70
Supper, Cordis		.50
Nov. 4 - Room <sup>1.75</sup> Breakfast <sup>35</sup>		2.10
RR. to Elkhorn (no tax)		.50
Lunch - Elkhorn restaurant		.40
Supper, Curtis Rest. Audubon		.45
		24.65

Nov. 5 - Audubon Mrs A.C. Rogers room		1.50
Breakfast (Mr & D.) Curtis		.90
Dinner		.30
Fruit, etc.		.18
2 baskets - 50, Express 2 baskets		1.50
Gov. Shaver - Aud. to Defiance		1.68
		6.45

Nov. 6 - (Sunday)		
Nov. 7 - Emma - for hinds		5.00
RR. Manilla to Defiance <sup>50</sup>		.28
Lunch, room, supper Downing Hotel, Defiance		.75
RR. Defiance to Manning (note)		.66
Miss Manning		.25
Nov. 8 - Park Hotel, Manning, Room, breakfast <sup>1.00</sup>		1.45
Lunch, Virginian Cafe, Manning		.30
RR. Manning		.25
RR. Manning to Cedar Rapids <sup>note</sup>		6.89
Dinner, Restaurant - Perry -		.35
car to Cedar Rapids		.18
car to Manning		.18
Supper, Manning, Rubels Rest		.40
Parcels (4) - Cedar Rapids		.40
RR. Cedar Rapids to Ia. City <sup>note</sup>		.96
Coffee, paper, magazine <sup>25</sup>		.35

30.98

24.65

\$ 55.63

My extras:  
 Fruit for lunch.  
 gum.  
 odd luncheon  
 baskets  
 sugar cookies  
 express charges.  
 Remains  
 Notebooks.  
 Maps.  
 Shaver, etc.  
 Laundry.



(look back two leaves)

and the part exposed gave no reaction with HCl.

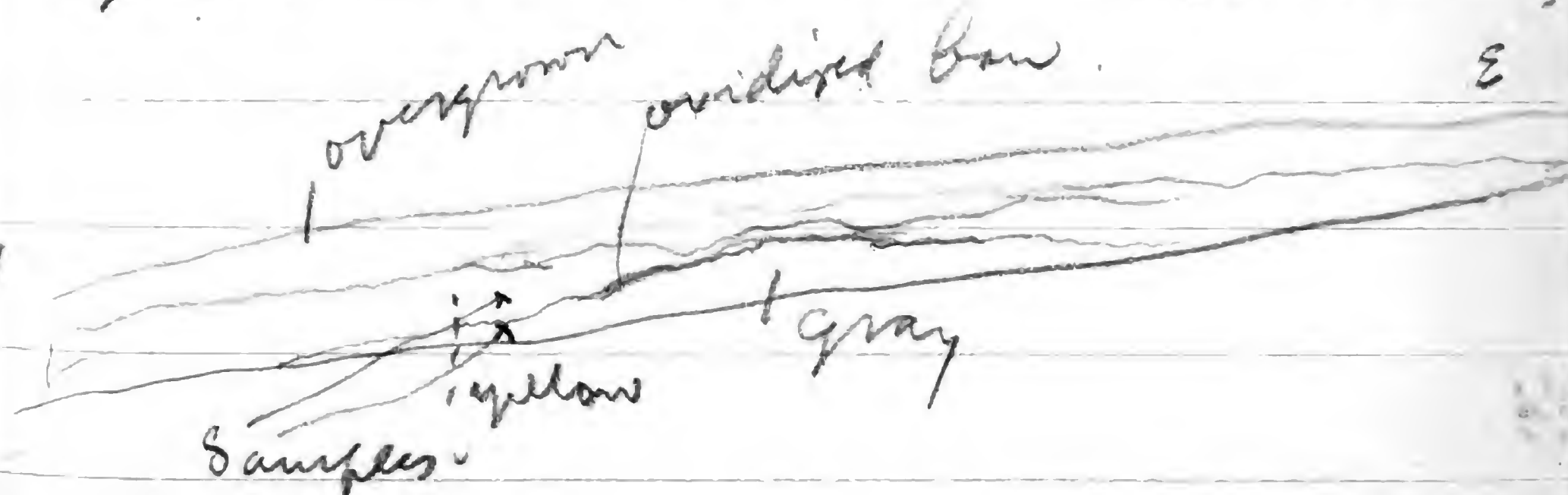
Took sample 4-6 in below top of gray.

This passes upward quite abruptly into a yellow layer, here 1-2 1/2 ft exposed. & above that 2 ft overgrown.

Both appear lobular (a slightly jointed) and may not be loose.

No fossils.

Farther up the slope the gray rises higher (2 ft) & there is a strongly oxidized belt between it & the yellow. The yellow becomes correspondingly thinner.



Neither gray nor yellow gave reaction with HCl.



Upland Timber in sec 10:

*Q. macrocarpa*

*Q. rubra*

Pignut

*Liriodendron* (yellow fl.) <sup>not red, orange</sup>

Red Elm

*Prunus serotina*

*A. velutina*

The bur oaks  
are at SW & S  
edge.

The ridge E. also shows gray  
stuffs, <sup>seen</sup> ~~gray~~, & when dry it  
looks more like joint clays.

Probably none of this is true.  
Drift (reddish & pebbly, with small  
boulders) shows on nearly  
all the ridges along S. side sec  
9 & 10.

The country E. to SE. on sec 10 &  
somewhat beyond, is quite rough.  
Sec 10 itself is pretty well broken up.

From hill just E. of P. G. cor. sec 10  
the view E., SE & S. still  
shows rough country, but evidently  
it soon runs out E.,  
to the N.E. it seems to be more  
gently rolling.

all along E. side of sec. 10 there  
is a row or belt of scrub  
bushes, 6-12 ft (mostly 8-12)  
at or just outside of fence. The  
belt is broken only in the low  
draw. On E. side of road  
the belt is more interrupted  
& much is missing & makes it  
continuous.

There is also a good belt of  
prairie along the road.  
Drift shows here & there, -  
as before.



While the valley is a lot of scrub  
hazel, especially on W. side of  
road. A few *Rhus glabra* (low)

Saw a jumbo in this scrub stuff  
Also *Blackberry* *Clutuder*,

Went a little E. of N. E. cor. of sec.  
10, N. & NE. (beginning not over  
1/2 a mile N. of N. line of sec. 11) -  
is the gently rolling lower-land  
area, as far N. & NE. as I can see.  
E. line of sec. 10 is quite rough  
& shows much drift.

On hill down, on other side  
S.E. of Eira 4-5 ft. of brownish  
surface stuff shown. On the  
vertical banks this weathers  
into a granular stuff (small lobules)  
Quite a little drift towards base.

Saw a Magpie - black -  
with white wing spots (large)  
& white belly - note  
ka-ka, ka-ka.  
Gua-gua-gua-gua - note.

Long-Tailed

Base of steep slope 1018  
Top of hill W. 1080 + 6

Return - top = 1080

Base of steep slope = 1012

Base of gentle slope (flat) = 965

RR - CR & P. = 965

Steep part =  $4\frac{1}{2}$  poles ( $\times 150$ ) = 675 ft.

Gentle slope = 10 poles = 1500 ft.

To river =  $4\frac{1}{2}$  " = 675 ft.

To RR =  $2\frac{1}{2}$  " = 375 ft.

Bottomland is 3-4 ft. lower than  
RR.

The country W. is somewhat  
rolling. all the slopes along  
the river valley are gradual.  
The country N. of Eira seems to



be of the gently rolling type.  
at the top of the hill W. of  
river (W. of Exira) there is a cut  
about 6 ft. deep. It was rather  
dark, but as nearly as I  
could make out the stuff is  
all the yellow, lobular upper  
kind, and not loess. Took sample.

Drift shows in & along road  
well up to near top.

Exira is partly on a sort of bench  
or terrace. It begins at W. side  
of business part & takes in a  
little over a block.

The day was <sup>(cold)</sup> cool, windy, &  
mostly clear.

875  
910

Nov. 3, 1921 Thurs.  
Arose at 6:30 am. A clear, rather  
cold morning. Had a heavy frost  
last night. wrote notes.  
Left for Brayton at 8:36 am.  
Went S. from Brayton along RR.  
Saw more <sup>quite a number</sup> Junos. Collected fruit  
of a very tall (7-8 ft) Chenopodium, - no  
leaves.

Went to terrace near co. line. <sup>S.</sup> The  
RR. cut here shows only a loose  
yellow stuff that has an  
appearance like that of the  
brownish uppermost (mud) layer  
of yellow loess. No nodules  
or fossils.

Top of terrace = 910  
Flat at crossroad = 875  
35 ft. Height of  
terrace is more or less  
broken.



Farmer says bottomland will give him 70 bu. of corn per acre & hill 60 bu.

In bottomland timber (edges)

<i>Salix cordata</i>	<i>Pyrus sp.</i>
Box Elder	<i>Crataegus mollis</i>
Am. Elm.	Rose (4 ft tall - partly)
<i>Salix amygdaloides</i>	green ash
<i>Rhus glabra</i>	<i>Acer saccharinum</i>
<i>Salix nigra</i>	<i>Vitis rupestris</i>
<i>Quercus macrocarpa</i>	<i>Pignus carya cordifolia</i>
<i>Lilia americanum</i>	<i>Symphoricarpos (rev)</i> <sup>eggs</sup>
<i>Celtis occidentalis</i>	Red oak
W. hickory	<i>Prunus serotina</i>
<i>Carya ovata</i>	

Went up the river along the E. side, in bottomland timber. Found a good many fungi and some slime molds. Bamwood log most common.

Am. elm next.

This timber has practically no undergrowth, and the trees are not closely crowded.

I also picked up some mollusks under stumps & logs. Not many species, *Vitrea* common, most common (about 60 ft)

*Gerritides aspersus* & *Lima* *cantharus* were next in abundance. *Physysa* *monodon*, *Euconulus fulvus*, *Pisidium* *cartusii*, *Pyramidula* *tristis*?, *Valonia* *costata*, *Luc. arana*, were found in small numbers.

Found a splendid *Ficaria*? in large patches on a big fallen log (bamwood?).

Hurried back to Mayton to get train at 3:50 PM. for Atlantic.

Reached Atlantic at 7:45 PM & put up at the Casino Hotel.

Worked late evening, labelling and packing my materials.



Nov. 4, 1921, Fri.

Awoke at 6<sup>00</sup> am, finished packing  
(Was embarrassed by starting off without  
paying my room bill! I had paid  
for my breakfast, took receipt for the  
whole bill, and started off! Of such  
is the king dom of the absent-minded!  
Dined, and with head full of plans for my work,  
left Atlanta for Elkhorn at  
7.30 am.

Just after leaving CR. I & P. (near  
which the line runs westwardly for  
some distance), the RR follows a  
creek valley. <sup>After</sup> ~~When~~ RR gets on  
W. side of it it hugs W. Bluffs  
closely & the E. Bluffs are close  
to creek.

The country on either seems  
to be quite rolling, but not

exceedingly so. The bluffs are  
mostly very gentle slopes, farmed.

This is still Conn co. The co.  
line is just N. of Gates.

The "bluffs" become even  
gentler as we approach co.  
line. The valley widens somewhat  
also, then narrows just before and  
at gates.

Cut just before Hamden. Then drifts.  
Loess in cut just at Elkhorn -

Went N. along RR - Cut B. S. of <sup>Hamden</sup> ~~Elkhorn~~

Base of cut =	1065 - 1045
Top of cut =	1095 - 1075
	<hr/> 30 ft 30

Cut A = Base 1020  
Top 1035

This is on a lower spur.  
On E. side at least 10 ft of yellow  
loess is exposed. It is rather soft.



without nodules or fossils, & rather  
uniformly yellow (brownish slightly).

On the west side irregular  
exposures of yellow loess occur. About  
6-9 ft. below top I found a few  
fossils & a couple of rounded nodules,  
nothing but yellow shales here. The  
cut is much overgrown, however.

The fossiliferous part is laminated  
in loess fashion, & has small iron  
spots or clonings. Took sample  
8 ft. from bottom.

W. side sample

On E. side took sample  
about 8 ft. from top

sample

There is a long, low cut between  
A. & B. It is 8 ft deep on W.  
side, & very low on E. It is  
badly overgrown, but seems to be in  
loess.

The region W. of flat marsh with  
cut B - across creek, - is gently  
rolling - The whole area W. of  
creek is evidently of the loess type.

Photos 2/22 - looking W. from  
above cut B.

Returned to cut B.

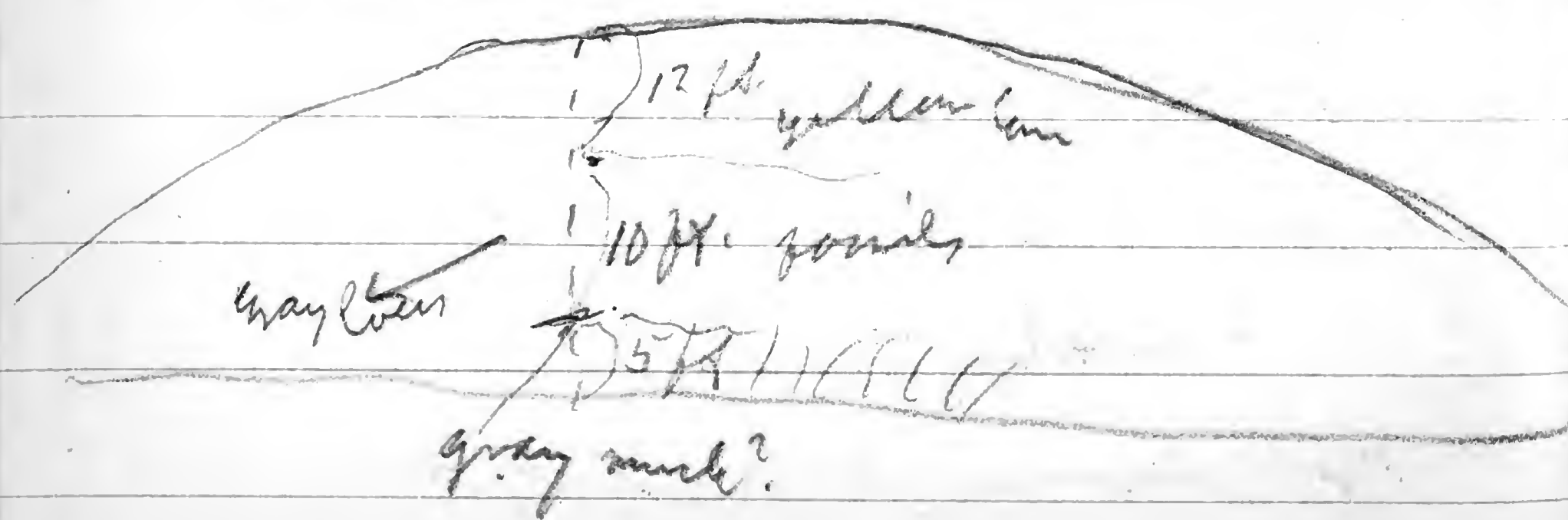
The W side is more overgrown.  
The E side is steeper at base.  
In one place away down shows



about 6 ft. above track. It is  
gray, with iron clonings & small  
tubes (not many) It is heavy,  
crumbly & without fossils as far as I can  
An irregular iron lens is above

The gray lens, is only moderately  
heavy with small iron tubes &  
small clonings, & with fossils;

In lower part few rounded nodules.  
The above is evidently below real gray  
lens, which seems to be at least  
10 ft thick at one point N. of center  
& 5 ft. above track.



A couple of feet (at least) of fully  
drift above irregularly at base.  
N.C. gave no reaction in blue mud,  
gray lens or yellow lens.

An irregular rusty lens separating  
the gray & yellow.

The drift does not show in bank,  
but holds on stream surface for  
a couple of ft. (No gravel bottom!)

The weathered gray lens looks  
yellowish, but where there is a  
possibility of mixing with softer  
yellow upper lens. In the  
more restricted parts it is grayish  
with rusty clonings.

Went to Cut C. (old 3)

Collected fossils & rounded  
nodules in gray lens



Barometer ran about 20 ft. 2. m. to know all the numbers to right

S

8 ft. yellow loam

9 ft. gray loam fossils!

about 4 ft. + bluish much drift below?

Some gravel in loam

The yellow loam is a part of brown soil. It becomes heavier with more gray downing and rather abruptly <sup>below</sup> in places some oxidized loam. The gray loam has iron tubes a good many some nodules of pyrites, pretty well all through down to 4 ft. some above pyrites.

The much below (gray or black) has some chocolate streaks in it. No response to HCl.

Took samples - at x

The gray loam effervesces freely with HCl, but the yellow & the blue-gray much did not at all. Went to cut 1 (low) (- 8)

Barometer then out = 22 ft

Yellow loam (same as in (3)) about 10 ft. (no effervescence)

Gray loam with strong rusty brown. A good many iron nodules; fossils

Iron tubes - (8 ft or more)

Lower part clumped.

See next page

This is clumped more at base than last year.



E. side

Yellow #10

gray about 9

11/11

Dark brown (clouds)

N. side even more overgrown & clumped.  
Did not collect fossils this time.  
(see last year's notes)

A little gray  
shows along  
base

Cut E. is in Elkhorn - N. of  
station. It is about 15 ft on  
E. side & 18 on W.

Gray lens shows on E. side of the  
cut 6-7 ft of top - oxidized  
band marks it. Lower part  
clumped.

W. side is also clumped &  
overgrown, but I found a  
few fossils in gray lens.  
Also some rounded nodules in W.  
Gray lens did not appear  
within 1 ft of top, but did  
freely several ft. below.  
There was no difference in the  
appearance (the visible characters)  
of the lens in <sup>the two</sup> different parts.



Elkhorn

— road

|| - cut - 7

9. || - cut - at base a little gray, then  
thinly bedded, then 5-6 ft  
yellow loess most of cut  
in gravelly drift (6 ft approx)

Mr. Kues + (the agent from Des  
Moines) came to Elkhorn for me.  
We drove down (A) to place  
where wagon road leading S,  
crosses the RR. Cut 7. is  
just a little ways below (S) of the  
road. Its lower part is  
somewhat slumped, and I could  
not see any drift.

Cut 7. (<sup>should be</sup> cut, lower)

about 7 ft yellow loess.

gray loess - 7 or 8 ft. approx.

about 5 or 6 ft - taken at base

W. side -

Just S. of road -

A few fossils in gray loess  
took samples. 1 of yellow +  
gray.

We went on down the track  
a few rods to cut 9. This is  
a lower cut, - on <sup>lower</sup> slope of ridge,  
hence not through high part.  
Its W.E. side is higher.

A brief description is given  
on preceding page, with plat.



We drove to Audubon  
by way of the ridge road,  
leaving Kimballton to the left.

This ridge extends all the  
way to Audubon, and shows  
evidence of loess at various  
points. The broad creek valley  
to the NW. is almost

parallel, and beyond it  
the country looks less rough  
(though I found it quite rough the  
following day.) On the right  
hand side the country is quite  
rough in the first township, &  
then is slightly less so, but  
keep rough more or less all  
the way to Audubon.

(See Township plat.)

Nov. 5, 1921 Sat.

Spent forenoon in packing, etc.  
Shipped 1 basket with clay samples  
& laundry to Ma, and one with fungi, etc.  
to Miss Cavanagh.

Started C.W. about noon (12<sup>30</sup>)

The country S & SW. is rough, as  
indicated on map. N. it is so for  
only a short distance.

In N. E. corner of 7-Hamlin Twp  
my old cut is a little deeper. It  
shows a little of the ferretto  
zone in the bottom of the gutter  
(distinct rusty layer) & below that  
I found (by digging) a gray loess<sup>2</sup>  
with iron tubules. (Rock sample) It is about  
7 ft. to this <sup>ferretto</sup> from top of bank.  
Above the ferretto is a heavy  
jointing, (lobular) yellow (with gray streaks),



clay, probably loess, though very heavy & lobular. (Both samples.)

The main part of bank is obscured by old soil, etc.

We left ridge road for Topline between Sharns & Hamilton Trs. & drove S. to Church, N. of Topline.

The region S. shows the broad valley of the Elkhorn & then hills (mainly but not mostly broken) S.

E. the country is more <sup>gently</sup> rolling, not rough & W. the creek valley is bordered by rather gently sweeping contour curves.

S. of the N. 9. cor. sec 36,

Sharns Trp. is a cut facing S. (just before coming to Church on next mile)

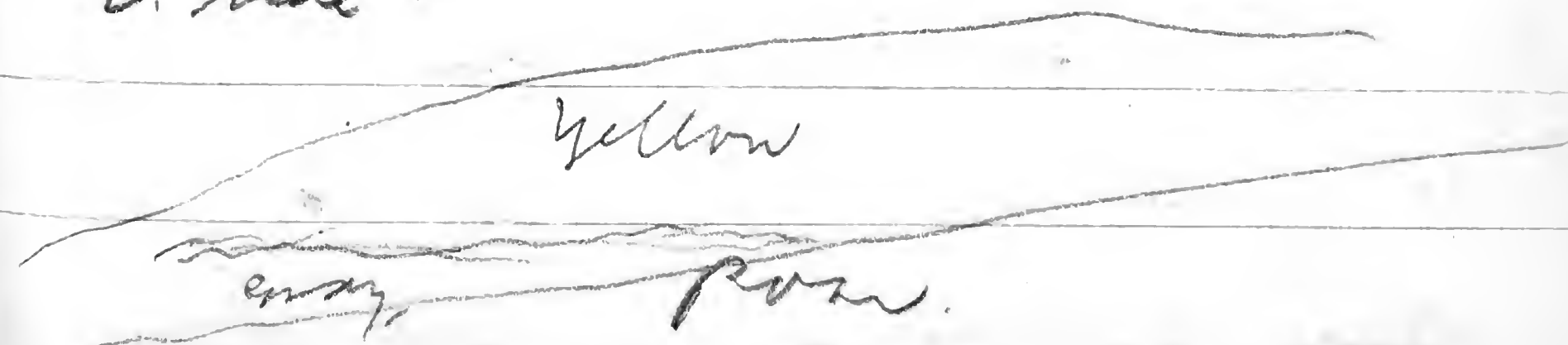
& it shows perhaps 4-5 ft of yellow loess (like in sec. 7) & toward base a couple of ft. of gray loess with iron tubes & no nodules or fossils. No nodules or fossils in sec. 7 either. The gray loess has strong rusty band above.

About  $\frac{1}{2}$  mile N. of N. cor. sec. 36 Sharns Trp. there is a slope facing N. which shows yellow loess, ferrites & gray loess as in preceding & in sec. 7.

Yellow about 6 ft (with soil)

Ferrites - 3-5 in.

Gray loess -  $1\frac{1}{2}$  ft. exposed E. side



Evidently all this upland was prairie, & hence no fossils.



(quite)  
On the high hill S. of creek, on  
E. side N.E.  $\frac{1}{4}$  sec. 25, Sharon Twp;  
the drift (rusty, pebbly & with some  
boulders) shows more than  $\frac{1}{2}$  way  
up the hill. Then heavy yellow  
loam (grazed below) shown &  
I saw no gray loam.

Evidently, there is only a thin cap.  
The other slope N. seems to be similar.  
The rather low end on very steep hill (facing N.)  
on E. side N.E.  $\frac{1}{4}$  sec. 24, shows drift  
more than  $\frac{1}{2}$  way up, & on top yellow loam.

On the steep hill S. of N.E. cor  
sec. 24 Sharon Twp., the drift  
runs nearly to top (less than  $\frac{1}{4}$  from top)  
yellow loam, with a little gray at  
base (no boulders, but grading)  
shows well up the hill.

On E. side N.E.  $\frac{1}{4}$  sec. 13-29-36  
(Sharon Twp.) on a long, rather gentle  
slope, about  $\frac{1}{2}$  way up, an  
exposure of gray loam appears.

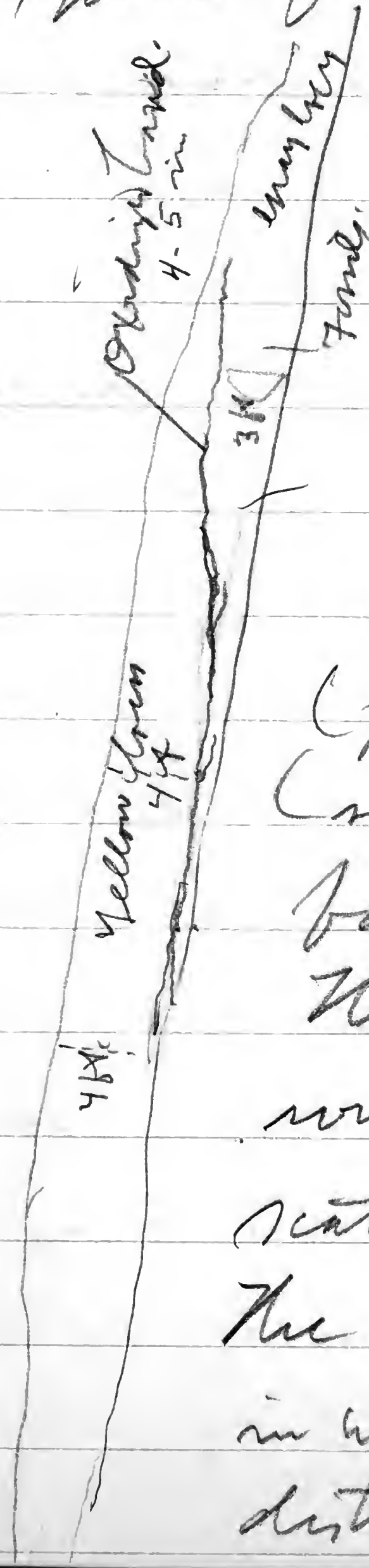
The gray gave  
effervescence with HCl  
below, but not a  
few inches from top.

Yellow - no effervescence.

The yellow is lobular  
(jointly) streaked with gray  
(similar to sec. 7), no  
fossils or nodules.

The gray has iron tubes  
round nodules (see spec.) &  
scattered shells. (see spec.)  
The oxidized belt is 4-5  
in wide & quite uniformly  
distinct. (see sample of gray & yellow loam)

on E. side





This was evidently on lower slope,  
in valley, & there was probably  
a thicket here,  
Farther South down slope towards  
creek, drift is exposed.

A long cut up slope to N. on E. side  
A. 9. 1/4 S. 1/4 sec. 12-79-36 - shows drift  
almost to top, & there what looks like  
a thin cap of yellow loam appears.

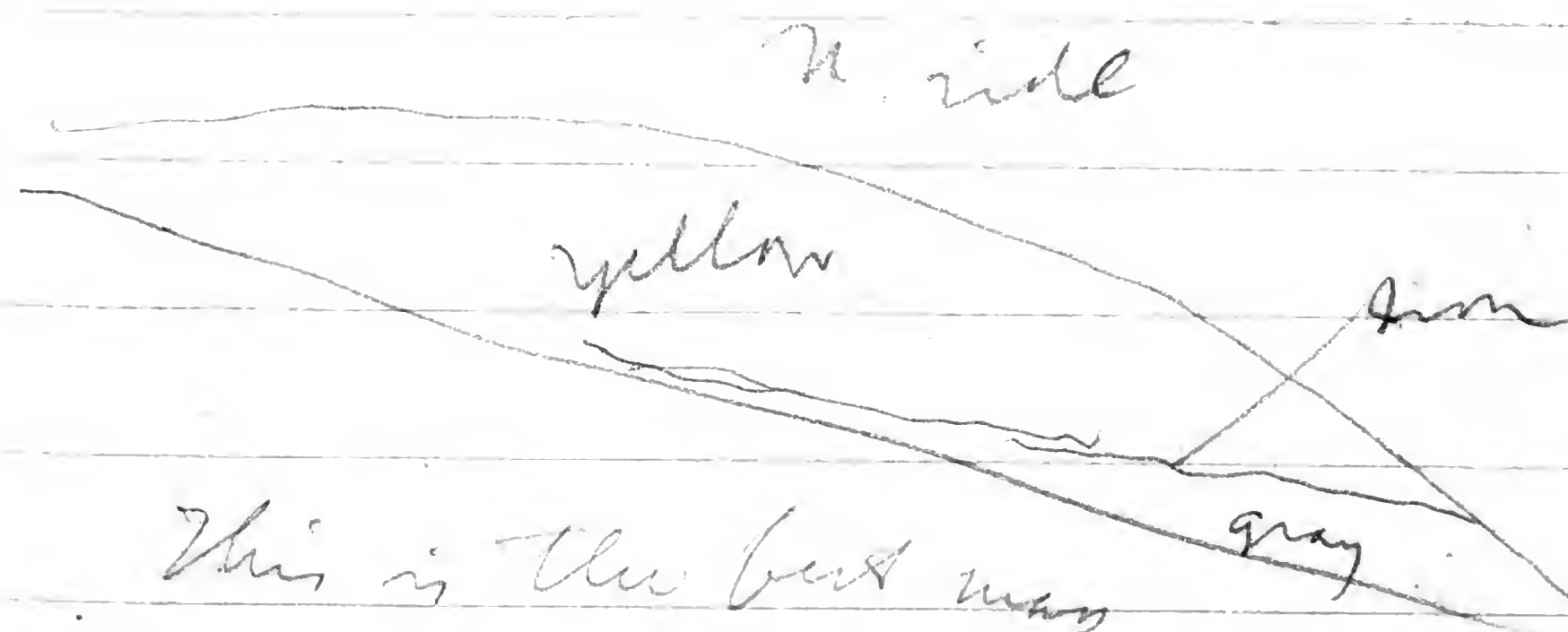
View to W. shows gently rolling surface.  
On the slope just N. (going down) some  
gray loam (iron tubes) shows under  
yellow. The next slope up also shows  
gray loam under yellow, & all  
these ridges show drift loam down.  
The loam is evidently thin.

N. from S. part of sec. 1 the country is  
less rough than E. & S. E.

Turner W. on S. side sec. 1

On S. side S. W. 1/4 S. E. 1/4 sec. 2-79-36,  
On E. slope, drift runs high up a  
steep hill, near top a little  
gray loam appears below 5-6 ft  
of yellow.

On S. side S. E. 1/4 sec. 3-79-36  
a good cut (up hill again) shows  
gray loam in lower part. Iron tubes,  
some lime nodules, columns &  
shells, but looks like there might be more.  
2 or 3 ft exposed.  
Above, 6-7 ft of yellow loam.



This is the best way  
of seeing today, to present  
time.



Nov. 6, 1921 Sunday.

Started from Harris.

Started in large cut on Twp. line  
(at viaduct) on C M & St. P.

The cut is somewhat disturbed  
in places, but shows the various  
elements in a number of places.

The strata run irregularly.

Collected shells in the gray  
loam near viaduct, on N. side.

Yellow seems to have none.

A. - With H. C. - No effervescence

B. - " " "

C. - " " " Effervescence fairly

D. - " " " No eff.

E. - " " " No efferv. { above it  
slate colored  
no eff.

F. - " " " upper part no eff.  
lower part " "

G. - " " " Effervescence fairly

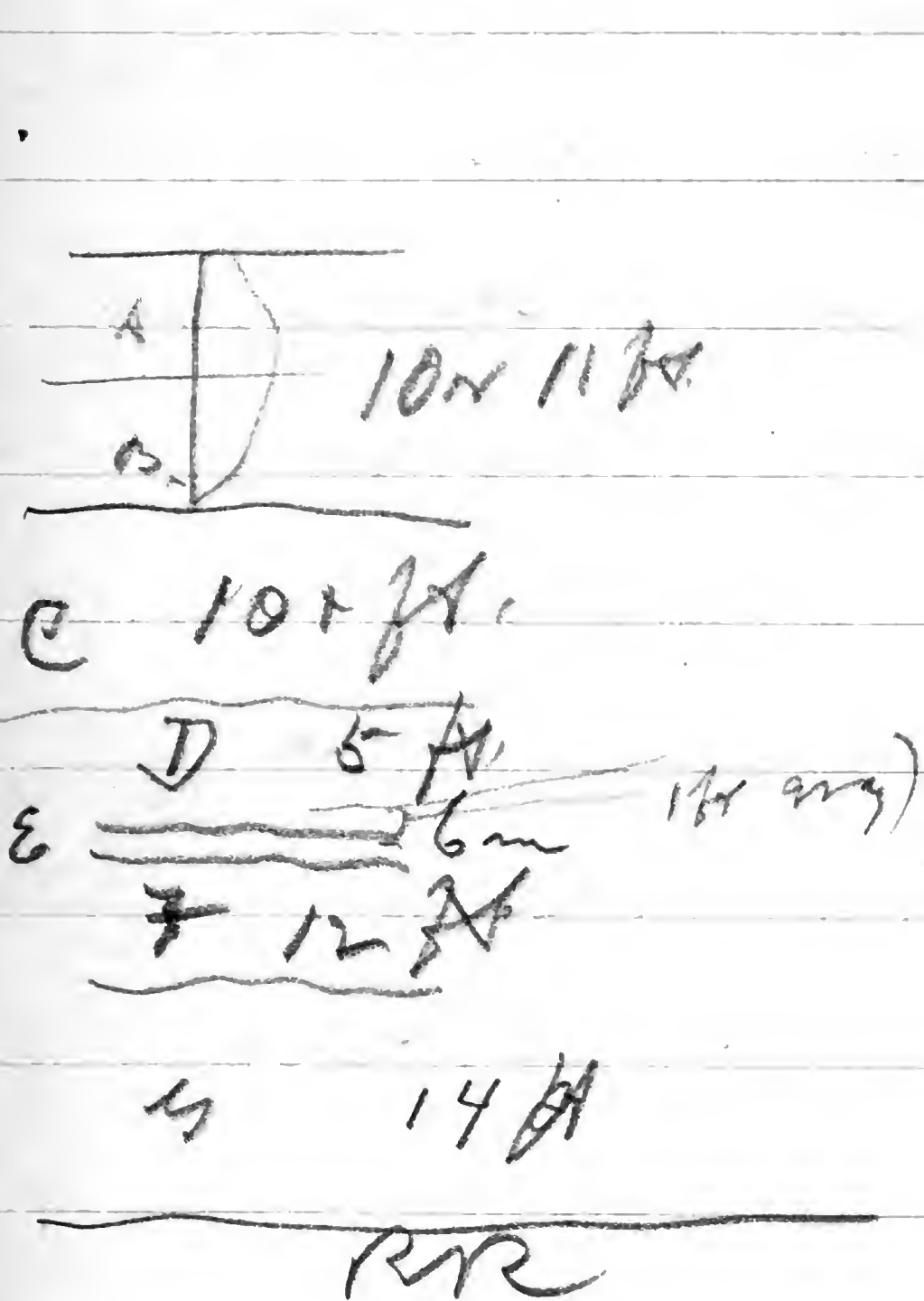


B 1185  
 Rusty, pebbly drift yellow where  
 with small boulders. 1177  
 dark blue, black, muddy like 1177  
1169 1177 1185  
 Dark slate color muddy stuff  
 1154

A + B. show poorly bed (over 2000) - see W. end.  
C. Is a rusty pebbly drift - joint clay in  
blue clastic & rusty.  
D. Is a dark jointed drift, very like  
Mch. in appearance. It contains  
pebbles & small boulders, but  
rather scattered.  
E. Is a dark sand with horizontal  
bands of lighter color. No pebbles.  
above it is about a foot of  
fine heavy stuff (grayish slate)  
which seems to belong with it,  
(the whole <sup>belongs</sup> with F.)  
F. A dark mass, more or  
less laminated.  
G. - None or less rusty & pebbly.  
It looks somewhat like C - indeed,  
very much like it.



(Estimated heights - independent of basins, going up)



On S. side thin and numerous  
 3 beds with Crinoids etc.  
 but is not so deep.  
 On N. side it is much more  
 and W. of bridge

Towards W. we took fossils  
 from gray loam & samples of  
 2 loams.

The gray loam sits on a dark  
 slaty stuff like F. 1 or 2 ft. or two,  
 & then the drift G.  
 There is a pebble in F.

The gray loam has iron tubes  
 & practically no nodules.

Found very spec. of shells all  
 in lower 10 ft. (see sample)  
 To right (at D) the yellow  
 loam below is heavy, gray streaked &  
 the gray

Took sample of gray loam  
 6 ft. above F. Also of  
 the heavy yellow at same  
 level to right.

Took another sample of yellow  
 loam 10 ft. higher - no effort  
 the lower yellow sample  
 shows few nodules.

Chert shows on loam &  
 drift clay surface.  
 This cut is across a broad ridge, running  
 just a little W. of N.



1<sup>st</sup> cut W. of Aspin walls

Yellow upper loess in lower, hidden  
with gray - about 9 ft with  
soil. Many nodules (see

samples - some) & scattered shells  
also small pits & streaks

Oxidized layer irregular but distinct  
4-6 in. -

Gray loess with few nodules  
few shells. About 5 ft. at  
middle of cut

10 poles long on S. side (less on N.)



There is a rusty  
brown loess  
transitioning down into  
Ransom (redish)  
& above it is 4 or 5  
in. of chocolate loess  
The yellow loess  
has many rounded  
nodules, &  
fossils scattered  
through

S. side is very  
similar but  
thinner mostly  
drift. It is  
a little lower.



2<sup>nd</sup> cut W. of Aspinwall 840.  
cor. sec. 9-

At E. end a long stretch of  
gray loam - nodules, tubules &  
fossils (Lymnaea, etc., evidently  
a wet place)

Cut runs a short distance  
into sec. 8

sec. 8



heavy calc. down to slope

The S. side of cut shows less  
clearly, but along the 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> & 10<sup>th</sup>  
Pole lengths drift is high up  
a few medium boulders appear

Similar to 7  
in preceding



Nov. 7, 1921 Mon

Drove from Mason's to Manning  
where I left my baggage.

drove cut in S.W. cor. of sec. 9,  
W. of Caskinwall.

rocks from E. end.

Opposite (coming from hole just W. of  
bridge (on S. side sec.)) end of 5<sup>th</sup>  
hole length W. of E & W. bridge

yellow loam  
7 ft

gray loam 9 ft  
fossils

about 7 ft { Rusty, sandy & somewhat pebbly  
shades below into rusty, pebbly drift.  
Few medium boulders.

The gray loam shades below quite  
abruptly into rusty, sandy stuff.

The "yellow" loam is quite heavy,  
much gray, with rusty clauding & tubs

Upper (oil) part seem to be brownish

The fossils in the gray loam up about  
W $\frac{1}{2}$  of 5<sup>th</sup> pole length W. of  
bridge are chiefly *Successina*  
*ovata* & *Vallonia* (large), & a few  
*Encrinurus* *galeus*, *Vertigo* & *Pyram.*  
*striatella*.

In the lower part, off W $\frac{1}{2}$  of  
4<sup>th</sup> pole length, there are  
*Cymaceras*, etc., & evidently  
this part was water.

All along, especially under the  
S. side of cut, water seeps  
out now.

The bank in 1<sup>st</sup> - 3 $\frac{1}{2}$  pole  
length W. of bridge seems to  
be made up of the dark  
mucky stuff (see sample)  
Is this an old pond?



That dark mud is not quite like 7. It is very lobular (jointed), somewhat rusty, & it appears as if the gray loess shaded into it laterally.

The upper part seems to be yellower (probably yellow loess washed on top)

This was all loess, & probably a bog or pond was here.

At 7<sup>th</sup> pole (holes 100 ft or so) the drift has risen to within 6 or 8 ft of top.

6 loess yellowish  
gray  
5 heavy yellow loess  
few fossils

drift 23

Modules are very common in the finch-gray loess, & most abundant where most fossils.

Opp. end of 7<sup>th</sup> pole the loess rests on same rusty, sandy layer as at 5<sup>th</sup> pole &

The lower 6 ft. of loess are heavier yellow. No modules, but gray streaks abundant.

Saw 1 *Auc. avicula* on surface ~~near~~ base of yellow (lower) layer.

May have come from this part, but saw no others. Lost at found better place, with *Auc. avicula*

& *Pyram. striatella* (few). This loess is gray loess (4 or 5 ft) & has few fossils. (See fossils & sample of gray)

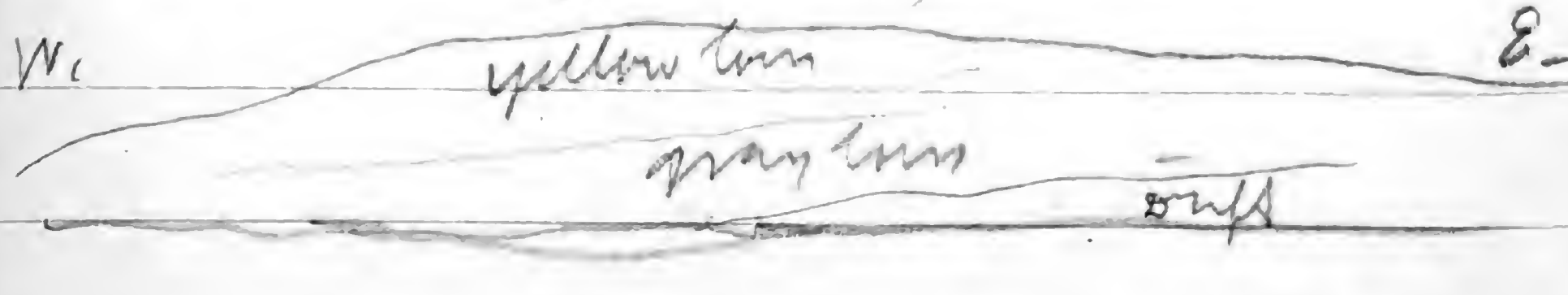
At 13<sup>th</sup> pole length (end of it) is N. & S. bridge. The drift



runs high all the way to  
bridge, though the cut drops  
in depth, its highest part  
being about between 7<sup>th</sup> pole level  
& end of 9<sup>th</sup> (or 9 1/2) pole lengths.

Evidently a little gray loam  
runs up over nearly (or) all  
the higher drift. Can see  
gray bits here & there.

About 4 pole-lengths of this cut  
run into sec. 8, but it is here  
low (about 10-12 ft?) & shows  
(on N. side) a little drift below  
& two loams (lower, grayer, with  
nodules & fossils.)



The next cut, in sec. 8, begins  
just a little E. of 9<sup>th</sup> pole beyond  
40 A. line W. of E. line of sec.  
(This is N. side. S. side is  
probably E. 2 pole lengths and  
a high bank.) Poles are about  
110 ft. apart.

Took elevation opposite middle  
of 2 pole length.



19

8 pine knots, about 1/2 lb each,

over

Valencia

my dear  
my dear  
my dear

very low

McLennan

22

Liney-Boyt

124

rev.

15

4th July

1109

34

11/0

the entry

9<sup>th</sup> m<sup>th</sup> 3<sup>rd</sup> have a  
where weather

2

in

The S. side of cut means to be very similar

The gray loam has imbedded (many)  
+ a few nodules. A few fossils  
The gray does not effervesce.  
Less than a foot of base of  
gray loam is the chocolate layer  
alternating darker & grays.

The yellow loess (exp. below) is rather heavy, with rusty clonings & grayish spots, but mostly yellow.

The oxidized band below is  
distinct, 2-4 in, & change to gray  
green is very abrupt.

The gray layer has <sup>many</sup> imbrications  
+ a few nodules. A few points  
the gray does not effervesce.

Less than a foot of base of  
gray loam is the chocolate layer  
alternating darker & gray.

At no. 1. The top has about  
2 ft. of soil & brown stuff, passing  
down into yellow loam. The  
latter has no fossils & no  
nodules, neither (soil or yellow loam)  
effervesces with HCl.



Below is quite abruptly, is  
a rusty layer, clayey, 1 ft or  
more, shading down into rusty  
drift, very pebbly, few small  
boulders, (see Q.) & below is  
effervescence very freely.

Over 3 ft. of top of drift is  
this very rusty stuff, with some  
& few pebbles & sandy, & no lime.  
Below that the drift is very  
limy.

A sec. S. the yellow loam is heavier  
& with gray below, (below) has  
rounded nodules & fossils.

The gray loam is separated  
from it by a narrow broken  
rusty band (a foot or so of  
transition). The lower  
part of yellow & the gray here

freely responds to HCl. (loam  
deeper here)

Took sample of fossiliferous yellow  
5 ft above it here. Found fossils  
up to within 7 ft of top.

Small rounded nodules in  
The part having fossils  
The cut in Sec. 7, down  
top is over 7 pole lengths long, &  
on S. side is continuous, but double  
on N. side. Somewhat irregular,  
but showing drift, gray loam  
& yellow loam as before



about 18 ft deep



↑ 18 ft  
Now a Vertigo & fragments of shells in gray.

Look of time prevented closer examination

The two last big cuts, on great curve in 2<sup>nd</sup> mile above Manila, show drift & loess. The W. one shows rusty drift & then a grayer drift (original Kansan) below.

The other seems to have only rusty drift.

Survived to Manila & took train at 1:15 for Defiance.

No cut to Defiance, RR in valley.

Reached Defiance at 1:35 PM. After lunch went down the track.

Cut 2/6 is overgrown but not dumped. Would be easy to clear.



It is much smaller than 217.

Cut 217 is still in good condition. There have been small slumps, and parts are overgrown, but it is easy to clear what is desired, & much is exposed.

This cut (on S. side) is just about  
12 pole-lengths long.

Opposite the middle one (five inches  
way) I made section:

yellow locust 23 ft

Oxidized band.  
Distinct but very  
sharp.

about 8 ft

about 6 in. of chocolate

gray loess.

about 2 1/2 ft  
Partly jointed

Drift. 115 fA.

The gray ends above in a  
a band 5-6 in wide quite  
silty but not sharp, & in  
another 5-6 in. grading into  
yellow above.

all of the year, including the  
rusty Caper, Sparrow.

In lower 1 ft. The upper, yellow  
loam effervesces very little

one pole farther S.W. (at  
highest pt.) the surface is  
about 2 ft. higher than  
where this sec. is taken.

Yellow loam  $2\frac{1}{2}$  ft. below top, no  
effacement.

About 6 ft. lower, no efferv.

A few shells are scattered through the yellow to within a few ft. of top.



Loess, etc. points.

Very commonly the lower part of gray loess has no fossils.

Fossils of gray loess are very commonly softer and more friable than those of yellow loess.

The gray loess effervesces.

The lower part of yellow loess has brown (almost black) spots & streaks, some gray, and is quite compact.

Upward the loess is lighter, better.

Took samples of yellow loess - <sup>softer</sup> 3 ft. top  
softer - 9 " "  
Rather firm - 15 " "  
Hard - 2 ft. from bottom

The lower part of the drift effervesces freely. Quite loose.

It seems to be Kansan, rusty on surface, bluish within, with much rust.

also took samples of gray loess, 2 ft. from base, chocolate color.

Rusty layer 1 1/2 ft. below chocolate.

There are lots of lime nodules (irregular) in the lower part of the Kansan - the



lowest 5 or 6 ft. -) southern  
10 or more ft. )

At N. end on W. side the  
gray loam is quite thick &  
has many nodules (see sample)  
& iron tubes, but very few (if any)  
fossils. Saw fragments only.

There are few iron nodules  
in gray loam of main  
part of cut.

My middle section is a good  
5 pole length (110 ft) N. of  
S. end of cut, & a scant 5  
poles S. of N. end.

The W. side runs down town  
at N. end, & both sides are  
a little short of 5 pole length  
from "center".

This cut is the same as  
a number of those in Crawford  
and Carroll co. - yellow loam,  
gray loam, chocolate loam,  
rusty moribund drift,  
Rusty drift, (& in some cases  
a blue-gray drift.

Usually fossils are most  
abundant where lime  
nodules are plentiful,  
but at N. end of cut  
216 there are plenty of  
nodules, but practically  
no fossils. The gray loam  
is commonly thicker on  
lower slopes, & thin out  
upward.

Had 2 meals at Downing Hotel, & left  
for Manning at 8<sup>14</sup> Pm.



Nov 8, 1921 Tues

Arose at 4:15 AM, expecting to go to Karlan in the 5:02 AM train. The busman failed me, and it was so stormy that I went back to bed, - in the Park Hotel at Manning.

Arose at 8:30. It was snowing, and the ground was more or less whitened far to the east. Left Manning at 9:54 AM, via the C. M. & H. P. Ry.

Just beyond Corn Rapids we enter Wisconsin Lake.

Just before reaching Cambridge cuts appear, & E. of mine there are some large cuts. (See them.) - Some timber on bottom at Cambridge.)

At Maxwell a brown flat valley. Some timber some good cuts within 2 miles W. of Melbourne. (except)  
W. of Vining - good cuts also E. (?)



4  
 Lve. Botna arr. Manning lve. am Aspinwall Manilla Defiance  
 9:45 am, 9:57 4:29 am 12:37 pm 4:50 1:00 - 1:20  
 12:47 5:45 am, 5:55

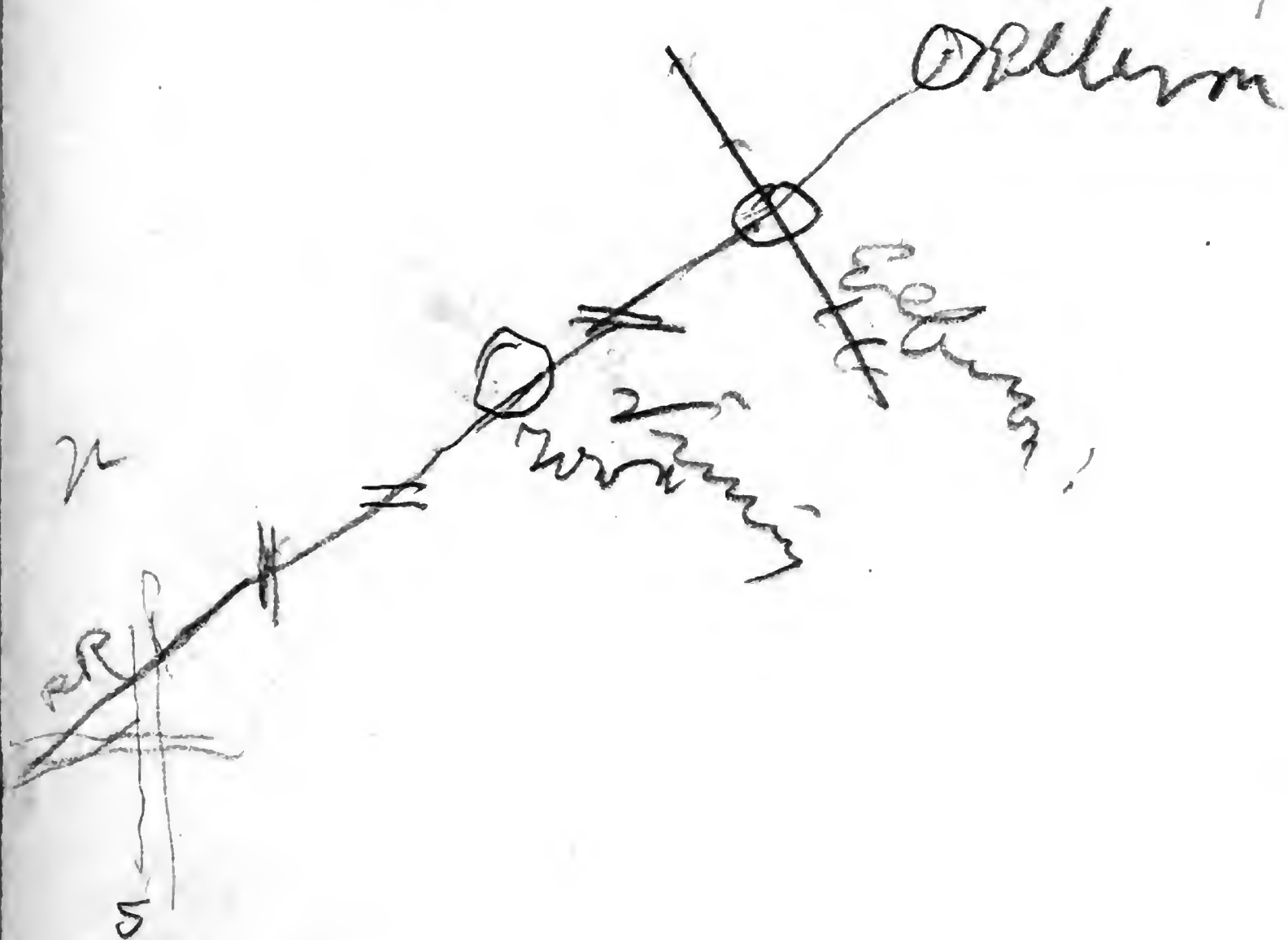
Lve. Defiance am Manilla Aspinwall Manning  
 9:05 am, 9:25 9:35 9:43 - 9:54 am,  
 2:20 pm 3:00  
 8:13 pm 8:30 8:45 9:07.

23  
 Lve. Manning Botna Harlan lve. am Minden lve. am Ia Co.  
 5:02 am, - 5:49 9:11 am, 7:55  
 1:35 pm, - 2:21 4:20 pm, 12:25 a  
 7:43 pm 7:52 8:31

an. Appoca lve. am Ia Co.

CRD & P. RR

6:10 am, 6:55 9:40 am, 7:55  
 10:45 am, 11:30 4:55 pm, 12:25



E.O. Thorson, Akron, O.  
 Dr. C.E. Wright, Clear Lake.  
 Patterson, Correctionville.  
 H. Halford, Manning.  
 E.C. Free, Spencer.  
 J.H. Cline, West Union.

M.H. Hall, West Union (naturalist).  
 Check Manning to Cedar Rapids  
 Nov. 8, 1921 T 247342  
 G

Admission

Plates

Bones

Barber

Write to Lue

" " Ma.

Yell. loam 7 ft.

Gray " 5 ft.

Kansan (yellow) 5 ft.

gray drift

aft. soil bar 4 in

Vel. gravelled 13 ft.

drift (Vel.) sands 2 "

" " sandstone 17 "



